

delta action plan

policies and
recommendations

HT
393
C2D4
1976
IGSL
UCB

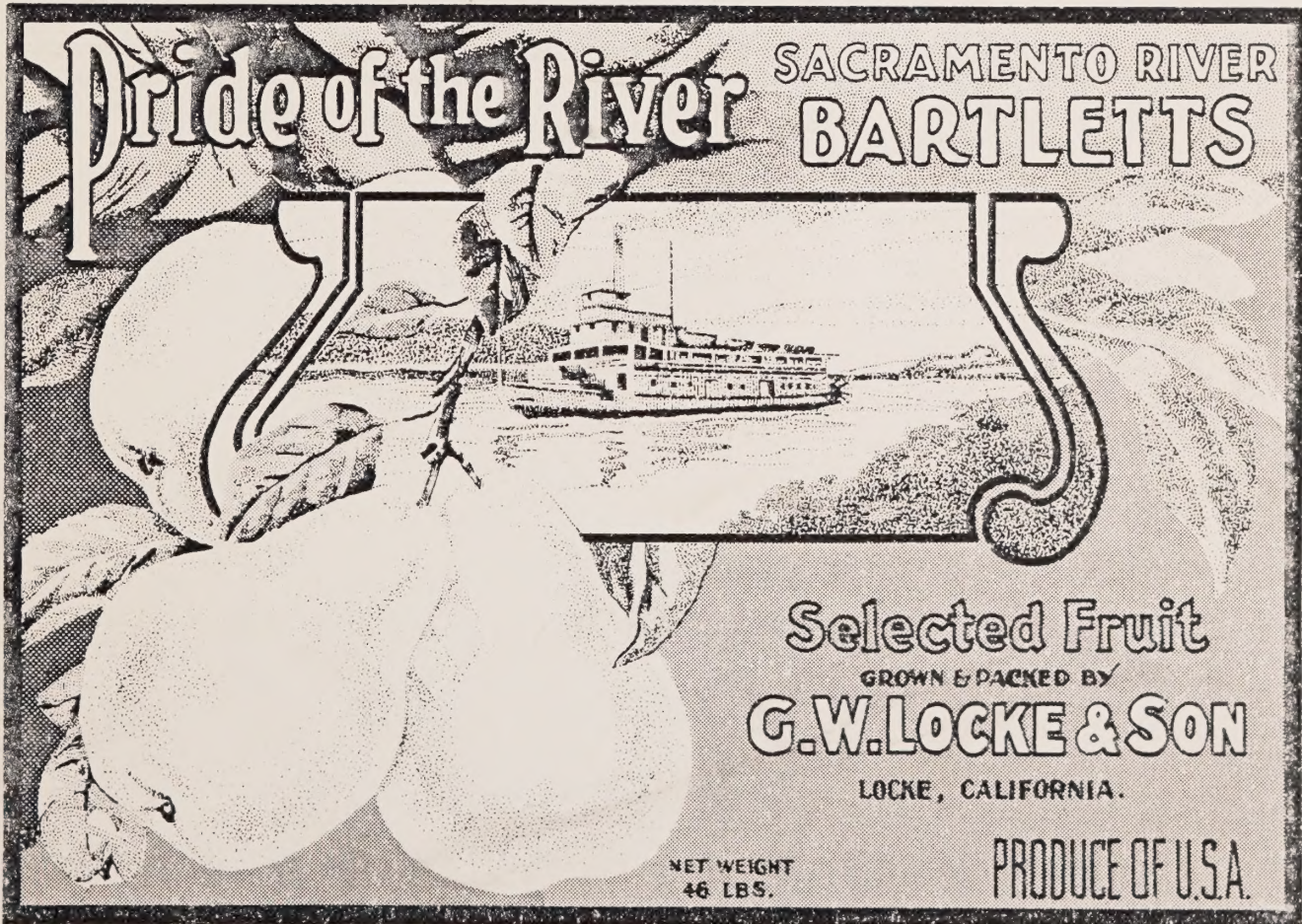
shp
Core.
Land Util.
City pl. Reg

Sacto river valley

INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

SEP 24 1976

UNIVERSITY OF CALIFORNIA



Pride of the River SACRAMENTO RIVER
BARTLETT'S

Selected Fruit
GROWN & PACKED BY
G.W. LOCKE & SON
LOCKE, CALIFORNIA.

NET WEIGHT
46 LBS.

PRODUCE OF U.S.A.

Delta Advisory Planning Council



Delta Advisory Planning Council

SACRAMENTO REGIONAL AREA PLANNING COMMISSION

800 H Street, Suite 300, Sacramento, California 95814
(916) 441-5930

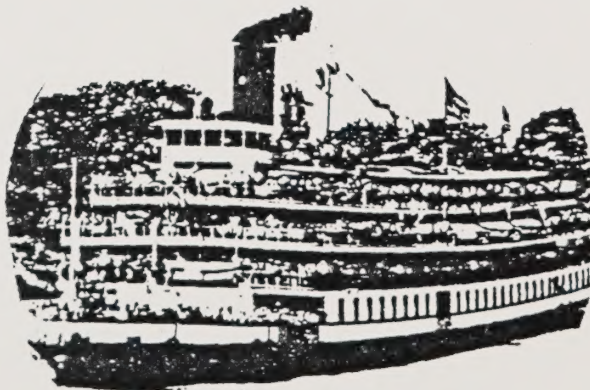
REPRESENTING
THE COUNTIES OF

CONTRA COSTA
SACRAMENTO
SAN JOAQUIN
SOLANO
YOLO

The preparation of this report was financed in part by grants and contributions from the Department of Housing and Urban Development, under Section 701 of the Housing Act of 1964, as amended; the National Oceanic and Atmospheric Administration, through the California Coastal Zone Conservation Commission; the California Department of Transportation; and the five Delta Counties.

"To conclude that such important resources (such as the water and land areas of the Sacramento-San Joaquin Delta) are primarily the responsibility of other levels of government would be an over-simplification and an understatement of the complexities and challenges involved. In truth, the responsibility is inter-governmental, involving city and county governments, special districts, regional agencies, and the state and federal government. Responsibility also rests with the private section -- the landowner, the farmer, the sportsman, and commercial and industrial operators, whose activities often are in competition for the use and management of limited and scarce resources."

-- Solano County Resource Conservation and Open Space Plan, Phase II, May 1973.





Delta Advisory Planning Council

SACRAMENTO REGIONAL AREA PLANNING COMMISSION

800 H Street, Suite 300, Sacramento, California 95814
(916) 441-5930

REPRESENTING
THE COUNTIES OF

CONTRA COSTA
SACRAMENTO
SAN JOAQUIN
SOLANO
YOLO

July 30, 1976

To The Chairmen of The Delta Counties'
Boards of Supervisors:

I am pleased to transmit to you the Delta Action Plan -- Policies and Recommendations which is the synthesis of DAPC's three years of planning, research, and review effort.

On July 16, 1976, the Delta Advisory Planning Council unanimously adopted this plan and submitted it to the Boards of Supervisors for "adoption or endorsement and use as guidelines in all future Delta related decisions."

The plan will be a great help to the Delta local governments and should also be useful to state and federal officials. It does not seek to establish a new permit issuing agency, and primary implementation responsibility will be retained by local governments. We are pleased that this was a voluntary effort, and shows what can be done by cooperative, consensus planning.

We urge all five Delta Counties and the nine Delta Cities to seriously study this document and make a maximum attempt to amend general plan elements, where necessary, to not only ensure compatibility but also to implement new ideas and concepts in the Delta Plan.

We thank you for your support during this unprecedented planning program.

Sincerely,

RICHARD BRANN
CHAIRMAN

HT 393
C2D4
1976
IGSL
UCB



Delta Advisory Planning Council

SACRAMENTO REGIONAL AREA PLANNING COMMISSION

SUITE 400, 1225 8TH ST. SACRAMENTO, CALIFORNIA 95814
(916) 447-9171

REPRESENTING
THE COUNTIES OF

CONTRA COSTA
SACRAMENTO
SAN JOAQUIN
SOLANO
YOLO

MEMBERS OF THE COUNCIL

CHAIRMAN - Richard Brann
VICE CHAIRMAN - Bob Gromm
PROGRAM MANAGER- Bruce E. Jones

ALTERNATE

MEMBER

E. A. Linscheid
William Walton III
Robert Gromm

James Graves
(Brentwood)

E. Henry Kloss

Lynn Robie
Fred Himebauch
(Isleton)

Norman Shumway
Harvey Berglund
Russell Chapin
Robert Canclini
(Tracy)

Richard Brann
Jan Stewart
Kenneth Grimm
James Stewart
(Rio Vista)

Twyla Thompson
Harold B. Turner

CONTRA COSTA COUNTY

Board of Supervisors
Planning Commission
Recreation and Natural
Resources Commission

City Councilman

SACRAMENTO COUNTY

Board of Supervisors
Planning Commission
Parks & Recreation Commission

City Councilman

SAN JOAQUIN COUNTY

Board of Supervisors
Planning Commission
Parks & Recreation Commission

City Councilman

SOLANO COUNTY

Board of Supervisors
Planning Commission
Recreation Advisory Committee

City Councilman

YOLO COUNTY*

Board of Supervisors
Planning Commission
Parks & Recreation Advisory
Committee

George Barber
Donald E. Barrows
John Van Assen

John Hobin (Tracy)

Wallace Brazelton
Stan Anderson
George Kaiser

Dave Barton

* Yolo County does not have a City within the Delta Planning Area and, therefore, has only 3 representatives on DAPC.

TABLE OF CONTENTS*

	<u>PAGE</u>
LETTER OF TRANSMITTAL	i
COUNCIL MEMBERSHIP	ii
INTRODUCTION	
. What is the Sacramento - San Joaquin Delta?	1
. Origins of the Delta Advisory Planning Council	5
. Description of the Delta Plan	7
. Major Findings	9
. DAPC Policy for Delta Conservation and Development (Goals and Objectives)	10
I. DELTA AGRICULTURE	
A. Goal	13
B. Objectives	13
C. Recommendations	
1. For Coordinated Action	13
2. For Local Action	13
3. For State or Federal Action	14
II. DELTA HISTORIC RESOURCES	
A. Goal	15
B. Objectives	15
C. Recommendations	
1. For Coordinated Action	15
2. For Local Action	15
3. For State or Federal Action	16
III. DELTA NATURAL RESOURCES	
A. Goal	18
B. Objectives	18
C. Recommendations	
1. For Coordinated Action	18
2. For Local Action	20
3. For State or Federal Action	22

* The introductory sections are printed on red paper with the primary text on white and appendices on blue, to facilitate reference

TABLE OF CONTENTS (cont.)

	<u>PAGE</u>
IV. DELTA NATURAL HAZARDS	
A. Goal	24
B. Objectives	24
C. Recommendations	
1. For Coordinated Action	24
2. For Local Action	24
3. For State or Federal Action	25
V. DELTA RECREATION	
A. Goal	30
B. Objectives	30
C. Recommendations	
1. For Coordinated Action	30
2. For Local Action	32
3. For State or Federal Action	35
VI. DELTA INDUSTRY, COMMERCE, AND TRANSPORTATION	
A. Goal	38
B. Objectives	38
C. Recommendations	
1. For Coordinated Action	38
2. For Local Action	38
3. For State or Federal Action	40
VII. DELTA RESOURCE MANAGEMENT	
A. Goal	41
B. Objectives	41
C. Recommendations	
1. For Coordinated Action	41
2. For Local Action	46
3. For State or Federal Action	51
<u>APPENDICIES</u>	
APPENDIX A. Inventory of Significant Delta Resource Areas . .	53
APPENDIX B. Delta Waterways Use Program	82

TABLE OF CONTENTS (cont.)

	<u>PAGE</u>
(Appendicies, cont.)	
APPENDIX C. "DAPC Statement of California Water Use and Conservation Principles"	100
APPENDIX D. Delta Development Checklist	102
APPENDIX E. List of Locations of <u>Delta Plan Technical</u> <u>Supplement</u> Series	105
GLOSSARY	110

MAPS AND CHARTS

The Sacramento-San Joaquin Delta - California's Water Wheel" (Map)	vi.
Delta Planning Area (Map)	vii
What is the Sacramento-San Joaquin Delta? (Chart)	1
Planning Area (Chart and Map)	6
Significant Delta Historic Resource Areas (Map)	17
Significant Delta Natural Resource Areas (Map)	19
Delta Flood Prone Areas (Map)	26
Delta Peat Lands (Map)	27
Delta Earthquake Faults (Map)	28
Significant Delta Recreational Resource Areas (Map)	31
Proposed Delta Master Trail System (Map)	33
Delta Parks and Recreation Areas (Map)	37
Rural Delta (Map)	42
Proposed Delta Regional Conservation Areas (Map)	48
The Workings of a Significant Resource Area Classification System (Chart)	54
Evolution of Resource Area Classification Systems (Chart)	55

ACKNOWLEDGMENTS

DAPC TECHNICAL ADVISORY COMMITTEE (as of July 1976)

Planning Directors

Anthony A. Dehaesus (Rep: Chuck Zahn)
Pete Hollick (Rep: Don Terrell)
Robert S. Hunter
Clayne Munk (Rep: Charles Moore)
Robert Peterson

- Contra Costa County
- Sacramento County
- San Joaquin County
- Solano County
- Yolo County

Parks Directors

John Hendrickson (Ex. Sec., Recreation Comm.)
Don Nance (Rep: Don Rivett)
Morris J. Fruitman
Dean Kastens
Earl Balch

- Contra Costa County
- Sacramento County
- San Joaquin County
- Solano County
- Yolo County

County Executives or Administrators

J. P. McBrien (Rep: John Hendrickson)
David Smith (Rep: Bill Pond)
Charles Dixon
David Balmer
Erwin W. Meier

- Contra Costa County
- Sacramento County
- San Joaquin County
- Solano County
- Yolo County

Public Works Directors

Victor W. Sauer (Rep: Jack Port)
Brian Richter
Bill Ward (Rep: Howard Hitchcock)
Eugene Knapp
Lloyd Roberts

- Contra Costa County
- Sacramento County
- San Joaquin County
- Solano County
- Yolo County

Council of Governments Executive Officers

Revan Tranter
Peter Verdoorn
James. A. Barnes

- ABAG
- San Joaquin County COG
- SRAPC

City Representatives

Peter M. Archuleta, Pln. Dir.
Gene Poertner, City Manager
James B. Schroeder, Pln. Dir.
John E. Golden, City Clerk
S. Anthony Donato, Pln. Dir.
George Alphin, City Administrator
Ethan Browning, Pln. Dir.
Bob Ching, Dir. Comm. Development
Walter Diangston, Act. Dir. Comm. Dev.

- Antioch
- Brentwood
- Lodi
- Isleton
- Pittsburg
- Rio Vista
- Sacramento
- Stockton
- Tracy

Delta Water Agencies Representatives

Col. A. E. McCollum
Dante J. Nomellini
John Wilson
John E. Devito

- North Delta Water Agency
- Central Delta Water Agency
- South Delta Water Agency
- Contra Costa County Water District

PAST DAPC MEMBERS

. Barbara Buhlert, Yolo
. Art Edmonds, Yolo
. Kay Hicks, Yolo
. Richard Hildebrand, Contra Costa
. Bill Kier, Sacramento
. Danny Lang, Sacramento
. Sandy Motley, Yolo

. Gus Olson, Delta Water Agency
. Dan Parises, San Joaquin
. Ben Schaffer, Lodi
. J. Dudley Stephens, Yolo
. Gary Wiler, San Joaquin
. Crawford Williamson, Sacramento

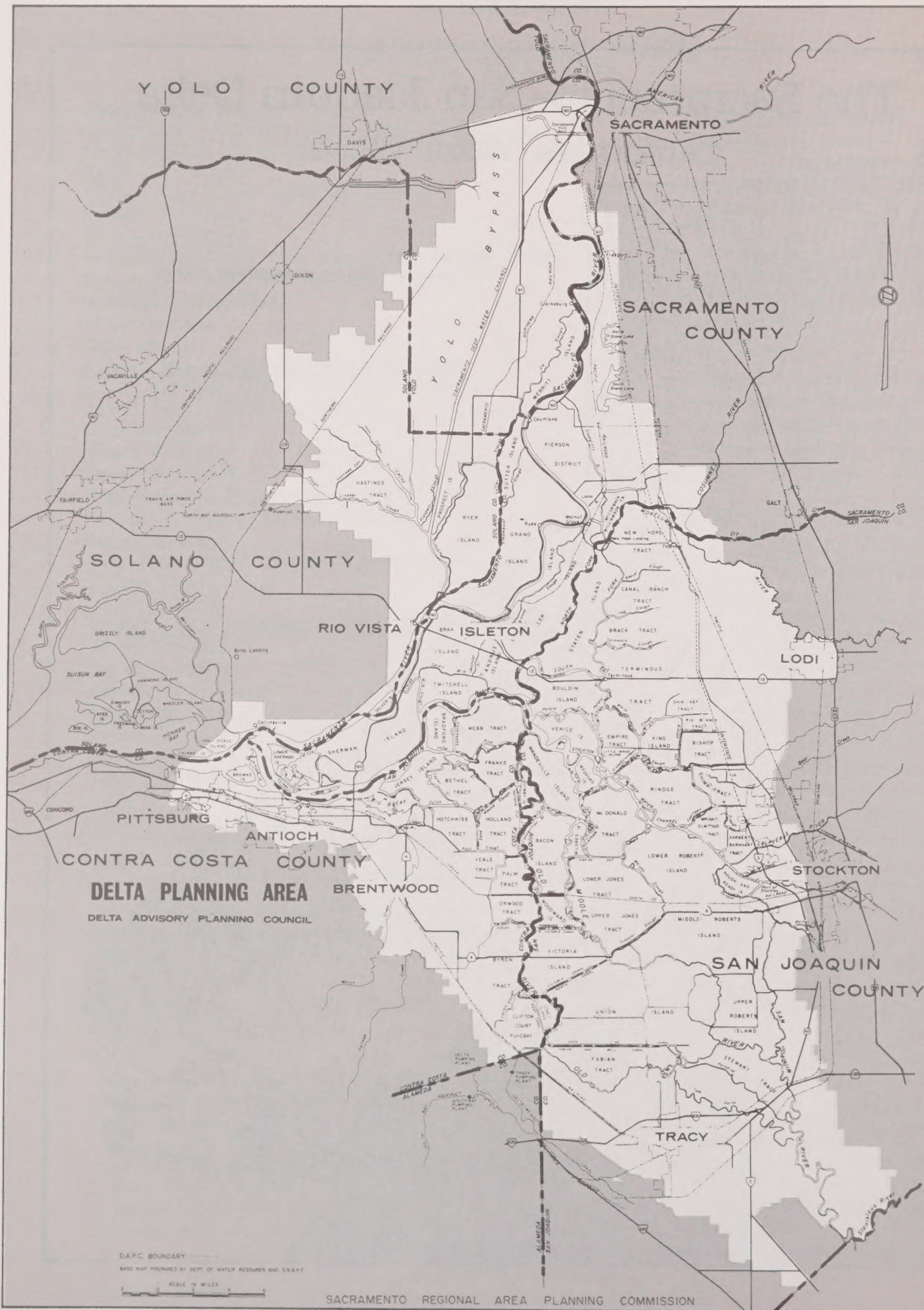
SPECIAL THANKS TO:

. Dick Boswell and the Pacific Interclub Yacht Association
. Ron Robie, Robin Reynolds, Art Winslow, and DWR staff
. Gaylord's Mercantile, Old Sacramento, for the fruit labels used as graphics.

The Sacramento-San Joaquin Delta

California's "Water Wheel"





INTRODUCTION

WHAT IS THE SACRAMENTO-SAN JOAQUIN DELTA?

OVERVIEW

In terms of physical environment, the Delta is several things: a river delta; an estuary (up to some variable inland line of demarcation where the fresh water is no longer mixed with salt water intrusion); a marsh, at least historically; the "water wheel" of a huge drainage basin; a reclaimed low-land with dikes and levees, not unlike Holland; a basin containing California's most fertile agricultural land; and a multiple-hazard area of unstable peat soil and constant flood threat. Through the Sacramento and San Joaquin River system flows almost one-half of California's runoff water. Coverging in the Delta lowlands (in some places 20 feet below sea level), the water meets the ocean tide at the Carquinez Strait (a breach in the coastal range), and flows into San Pablo and San Francisco Bays, as well as Suisun Bay and Marsh.

Today the area is a "delta" more in name than in reality. The alluvial fan could not fully develop in this inland basin which became a marsh during the dry season and inland lake during the wet season. This phenomenon resulted from the juncture of two major rivers in lowlands bracketed by the Sierras to the east and the coastal range to the west (specifically, the Mount Diablo range, Contra Costa County, and the Montezuma Hills, Solano County).

This geologic region is often called the Bay-Delta Estuarine System to demonstrate the physical and ecological interrelationships of the San Francisco Bay and the inland Delta. And the Delta is sometimes referred to as the "California Delta" to emphasize its statewide significance as a resource area of multiple values and potentials.

Features	"Historic" Delta Marsh	"Legal Delta"	"DAPC Delta"
Size, Square Miles	About 750	1,153	1,194
Size, Acres	About 480,000	738,000	764,160
Water Surface, Acres	Variable, About 400,000	50,000	50,000+
Waterways, Miles	"Intermittent"	700	725
Levees, Miles	None	1,062	1,141
Islands	"Intermittent"	About 880 (60 are leveed)	About 880 (60 are leveed)

THE "NATURAL" DELTA*

The Delta is situated at the confluence of the Sacramento and San Joaquin River systems, where it occupies an area of more than 1,100 square miles. Before the California gold rush, the entire Delta area was a great natural inland marsh with scattered groves of trees and abundant fish and wildlife, including even elk and grizzlies.

The Delta contains about 60 leveed islands and tracts, with perhaps 800 small unleveed "tule" islands within its 700 miles of waterways and 50,000 acres of surface water. Nonleveed channel ("tule") islands and a small percentage of the Delta levees and riverbanks have dense growths of natural vegetation. Trees (such as oak, cottonwood, and willow); shrubs; weeds; grasses; blackberries; wild rose; wild grape; and aquatic plants provide food and cover for many species of wildlife.

In the region are about 200 species of nongame birds (mostly migratory), several species of upland game birds (of which pheasant and mourning dove are the most abundant), at least 39 species of mammals, 19 species of reptiles, and 8 species of amphibians. The Delta's wetlands are an important part of the Pacific Flyway that is used by migratory waterfowl.

Some of the birds commonly seen in the Delta are grebes, herons, swans, sandhill cranes, geese, ducks, hawks, white-tailed kites, owls, kingfishers, poorwills, woodpeckers, wrens, thrushes, warblers, flycatchers, swallows, blackbirds, sparrows, and quail. Also found are such rare birds as the blackrail and yellow-billed cuckoo. The Delta's mammals include the beaver, muskrat, river otter, raccoon, mink, skunk, weasel, opossum, gray fox (and the rare kit fox), and a variety of small species -- gophers, moles, mice, squirrels, and rabbits. Deer can still be found in areas having dense riparian vegetation, particularly along portions of the Consumnes and Mokelumne Rivers. The endangered giant garter snake is in the Delta, as is the scarce California legless lizard.

The Delta's meandering waterways provide a rich aquatic environment, with an abundance of fish and other aquatic life. Striped bass, king salmon, steelhead trout, sturgeon, and American shad represent the principal anadromous game species. Largemouth bass, small mouth bass, catfish, warmouth, Sacramento perch, crappie, bluegill, and green sunfish are year-round residents in the smaller sloughs and quieter backwaters above the salinity gradient. Other

* The Delta's massive reclamation obviously destroyed the natural marsh environment. The term is used here to describe remnants of this natural area and revegetated areas.

warmwater species include carp, splittail, blackfish, sqawfish, suckers, golden shiners, hitch, and freshwater sculpins. Most of these species are important to California fisherman as game fish or as food for sport fish. About 25 percent of all warmwater and anadromous sportfishing in California and about 80 percent of California's commercial salmon fishing are dependent on the Delta estuary as an area of species origin.

Nonleveed channel islands and the banks of drainage canals and leveed islands provide habitat for several species of amphibians -- one of the most important being the bullfrog. These areas of the Delta are also inhabited by crayfish, which support a commercial fishery and are essential to the aquatic food chain.

There has been a steady decline in the amount of habitat available to wildlife due to: single-purpose levee maintenance clearing; "clean farming," with cultivation to edges of road and levees; proliferation of man-made structures (houses, piers) in the waterways, within the riparian habitat, and in the channel islands.

In comparison with major waterways elsewhere, the waters of the Delta are relatively clealy, although murky. However, increases in California's population and expansion of Central Valley farming have increased exportation out of the Delta, which will create future water quality problems.

Beneath the Delta lie some of California's most important natural gas fields. There are about 35 fields which have produced more than 3.5 trillion cubic feet of gas. The wind is a potential energy source, on occasions reaching 50 miles-per-hour through the Carquinez Strait "wind tunnel."

THE RECLAIMED DELTA

Sutter's Fort became the focal point for the settlement of the region. Sutter's activities were varied -- farming, fishing, trapping, and, of course, his famous lumber mill at Coloma. In January, 1848, his foreman, John Marshall, showed Sutter the gold discovered four days earlier. In days the word was out and Sutter's Fort was soon crowded with the first prospectors.

The rich organic soil (created by decomposed swamp vegetation) so near the great Gold Rush populations was a natural for farming. The new demand for food, and its limited supply, created extravagant prices (in 1849, table peas cost \$4.00 a pound!) and ensured

that the easily accessible Delta land would be reclaimed. The first levee is believed to have been built in 1851 on Grand Island by Reuben Kercheval. The Federal Swamp and Overflow Act of 1850 provided for title transfer of reclaimed land from the federal government to the states. Not until 1860 did California establish a state commission to transfer title to private developers, enabling reclamation to begin on a large scale. By 1900, half of the Delta had been reclaimed, and by 1930 the islands were in their present form. The initial reclamation of the Delta created a new flood problem -- for every acre of land leveed, there was an acre less of floodplain to hold the excess flow of the Central Valley rivers. Levee stability continues to be the Delta's primary problem.

THE DEVELOPED DELTA

No major cities are located entirely within the Delta; however, its boundaries* touch upon Sacramento and include a large portion of Stockton. Smaller incorporated cities within the Delta include Antioch and Pittsburg, Isleton, and Rio Vista, plus about 10 unincorporated towns and villages. To the west, the Delta opens into San Francisco Bay and the heavily populated Bay Area. About 250,000 people live in the Delta.

Two major roads, Highways 4 and 12, bisect the Delta. Highway 160 (the "River Road") follows the meandering course of the Sacramento River. Highway 84 traverses north to south through Yolo and Solano Counties and Interstate 5 skirts the eastern side of the Delta. The Corps of Engineers maintains 30-foot-deep ship channels to both Sacramento and Stockton, enabling oceangoing vessels to berth at these two inland ports. Nearly seven million tons of cargo annually move through the Delta waterways. The area is highly industrialized in the west and much of the Delta's fringes are feeling pressures, as well.

The Delta is one of the most fertile areas in the United States, and about 91% is zoned for agriculture. The annual harvest grosses up to \$350 million, and is noted for it asparagus, pears, potatoes, celery, and other truck crops. A grape and winery industry is growing, especially in the Lodi area. An extensive levee system, about 1100 miles, protects the 60 major islands, almost all of are used for farming. (See "Levees" in glossary.)

Recreation is a major industry which includes about 140 marinas and heavy boating usage. Park facilities are generally considered inadequate in the face of increasing visitation to the region. Lack of police personnel is another key problem.

* See Water Code Section 12220 for definition of the "Legal Delta" codified in 1954 for water protection. The DAPC area is slightly modified (see page 6).

ORIGINS OF THE DELTA ADVISORY PLANNING COUNCIL

The Delta Advisory Planning Council (DAPC) was formed in October 1972 by a joint exercise of powers agreement between the five Delta Counties -- Contra Costa, Sacramento, San Joaquin, Solano, and Yolo. The 19-member Council is composed entirely of local government representatives -- from each County a Supervisor, Planning Commissioner, Parks Commissioner, and a City Councilman (except for Yolo which has no incorporated city in the planning area). Funding has been by the Counties with grants from the Department of Housing and Urban Development's "701" program, the National Oceanic and Atmospheric Administration, and the State Department of Transportation. The total four-year effort has required a cumulative expenditure of about \$190,000. 1/

DAPC's predecessor was the Inter-County Delta Planning and Recreation Advisory Committee (ICDPRAC). In January 1967, a meeting was held to establish dialogue among staff and commissioners representing the recreational interest of the Delta Counties. After meeting periodically for about eighteen months, the committee was expanded to include planning staff and commissioners from these counties, and the Inter-County Committee was formally established. The purpose of the advisory body was stated to be the "study of matters regarding planning and recreational developments in the Sacramento-San Joaquin Delta Region, to formulate recommendations on such matters and to present such recommendations to the Board of Supervisors of the five Delta Counties and other state and local officials."

The Committee met approximately once each month and emphasized opening new lines of communication to federal and state agencies. As a result of the Committee's review of the State's 1966 Delta Master Recreation Plan, each of the five Counties approved a modified version of the "Delta Waterways Use Plan," which was an element of the master document.2/ During 1970 and 1971, it became increasingly evident that local government staffs lacked the time to adequately support the Committee's planning effort, and the committee agreed on the need for a full-time staff.

By October 2, 1972, all five Counties had passed the Committee's model resolution creating DAPC by means of a joint exercise of powers agreement, which included the following directive (with emphasis added):

WHEREAS, the signatory counties have determined there is a need to coordinate the activities of local governments in the Delta and to develop and maintain a comprehensive

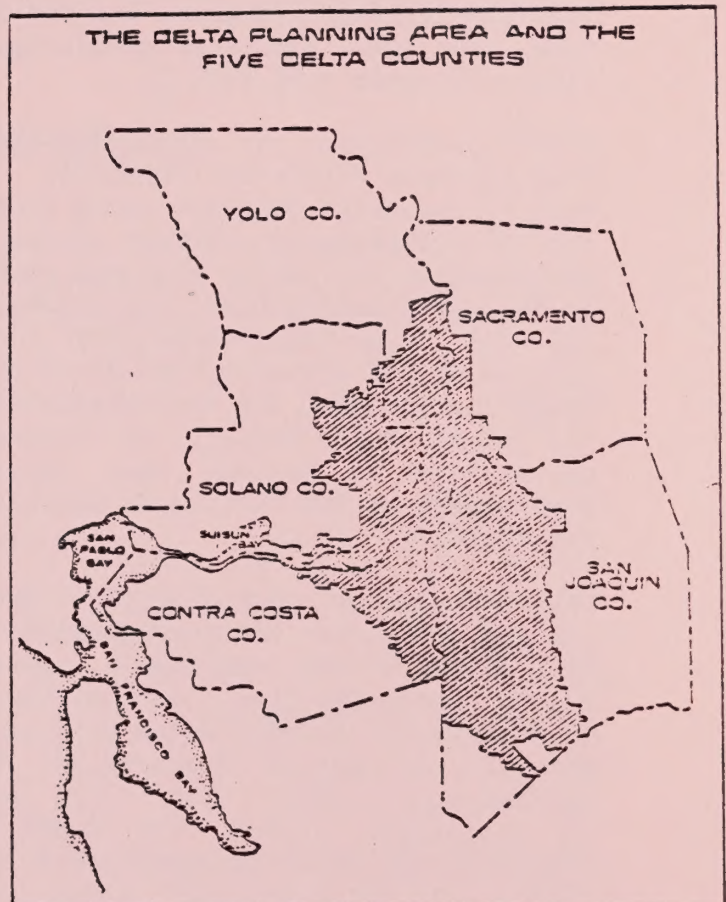
1/ FY 72-73 - \$25,000; 73-74 - \$44,600; 74-75 - \$60,000; and 75-76 - \$60,554.

2/ See Appendix B for the newest version.

plan for the area and to strengthen local government's role in state and federal planning for the area; and...

The purpose of this agreement is to establish for a period of not less than three years an advisory council of local government officials to be responsible for the development, coordination and completion of comprehensive planning studies in the Delta. The studies are to be conducted with the specific purpose of assuring that local governments influence will prevail in the numerous planning and operational decisions that affect the Delta.

The planning area generally follows the "Legal Delta" as described in Water Code Section 12220 (added by Stats. 1959, Chapter 1766). However, some changes were made in this definition to meet regional needs -- Lodi was included and the northern tip of Alameda County was excluded. On October 11, at the Council's first meeting, the first resolution authorized a cooperative agreement with the Sacramento Regional Area Planning Commission to carry out the work program. A contract was thereafter executed and in December, 1972 a Program Manager was hired. The planning period ended on July 16, 1976, with DAPC's unanimous adoption of this action plan and its submittal to the Delta Boards of Supervisors for their adoption of endorsement.



COUNTY	TOTAL COUNTY SQUARE MILES	PERCENT OF PLN. AREA IN COUNTY	PERCENT OF COUNTY IN PLANNING AREA
Contra Costa	801	13.8%	20% (165 sq. miles)
Sacramento	994	15.6%	19% (186 sq. miles)
San Joaquin	1,410	47.2%	40% (564 sq. miles)
Solano	823	11.2%	16% (134 sq. miles)
Yolo	1,034	12.1%	14% (145 sq. miles)

DESCRIPTION OF THE DELTA PLAN

The Delta Plan by DAPC is a preliminary "comprehensive" resources plan for the Sacramento-San Joaquin Delta. It is not a single document but is a series of inter-connected reports, as follows:

- Delta Action Plan - Compilation of all policies and recommendations which evolved from the technical research and were adopted by DAPC. The Action Plan is organized in the same format as the technical data base described below.
- Delta Plan Map - Visual interpretation of the Action Plan's land use proposals.
- Delta Plan Technical Supplement - This data base, which can be characterized as a preliminary "Delta Master Environment Assessment," is a series of staff technical reports published in separate chapters (see Appendix E of this document for their locations, which include libraries). These are not adopted documents and provide only technical analysis and background for reference, as follows:
 - I. Delta Agriculture and Soils
 - II. Delta Historic Resources
 - III. Delta Natural Resources (published as draft only)
 - IV. Delta Natural Hazards
 - V. Delta Recreational Resources
 - VI. Delta Resource Development -- Industry,
Commerce, and Transportation
 - VII. Delta Resource Management

Because of the interrelationship of so many subjects, resources, and programs, some overlap and repetition occurs. This is both necessary and desirable since citizens and governmental officials will generally refer only to special topics of their interest. Therefore, coverage of any issue should be thorough.

It is important to emphasize that all recommendations in the plan are advisory and include "should" in their language. This kind of recommendation includes the following considerations:

- The lead agency (or agencies) is urged to move in the direction suggested.
- No time frame is implied unless specifically offered.
- Each proposal recognizes the condition of financial feasibility.

* As of July 1976 fiscal limitations allowed only Technical Supplements I, III, and IV to be so distributed. The balance may be released in late 1976. For the interim, copies are limited to the County Planning Departments and the SRAPC library.

- Follow up actions to secure implementation will be by advocacy and coordination, and/or the preparation of legislation which will address fiscal problems.

After several attempts to select the best title for the effort (early names were "Delta Conservation and Development Plan" and "Delta Policy Plan"), the choice for the primary document went to Delta Action Plan -- Policies and Recommendations. This clarified its status not as a repository of facts and data, but as a statement for political action. Many of the recommendations are only conceptual, without the steps, costs, and deadlines further defined. Therefore, they can really only be the start of "action" -- most will require a thorough implementation report to identify details. This kind of recommendation can be classified as "active" since a specific lead agency must put it into motion. The other type of recommendation is "passive" and provides a checklist-like function which can be implemented by testing all development proposals against the concept. These guidelines have also been compiled in Appendix D.

The action Plan contains 7 major findings, 7 goals, 14 objectives, and 158 recommendations (numbered sequential in the margin for easy reference). Of these, 31 appear in the category, "For Coordinated Action," which could involve a number of agencies and the private sector (therefore no specific lead agency has been suggested). This group also includes many of the "passive" recommendations that can act as development guidelines. Local action is suggested to implement 75 recommendations, with 52 suggested for state and/or federal actions (this latter grouping is followed by parenthesis including the abbreviated titles of proposed lead agencies -- see the glossary for full designations).

The most important sections of this plan may very well be Appendices A ("Inventory of Significant Delta Resource Areas") and B ("Delta Waterways Use Program") which are frequently referenced throughout the document. The significant resource area inventory is an essential tool (but one which has never before been so thoroughly defined in a governmental document) for guiding future developments and alterations away from special preservation areas. The inventory is by no means complete and should be amended as better information becomes available. At present it lists 51 natural areas, 118 historic areas, and 50 recreational resource areas.

Appendix B, the Delta Waterways Use Program, offers the single most important management concept in the plan, in that it "zones" (in an advisory fashion) the Delta waterways into "Natural Areas," "Scenic Areas," and "Multiple Use Areas." This set of guidelines is a refinement of the 1966 and 1973 state efforts and was prepared by a

state, regional, and local task force for use in both the DAPC plan and the state's 1976 Delta Master Recreation Plan. This close cooperation will enable the program -- even though it is only advisory -- to bring a new consistency and balanced overview to the review of waterways related projects in the Delta. It should be noted that this effort changes the emphasis from a "plan" to "program" to represent its ongoing function.

Also notable is Appendix C which is the "DAPC Statement of California Water Use Principles," a resolution passed in 1974 which advocated more efficient water use and planning throughout California. The premise was (and is, especially now, in the 1976 "dry year") that much of California is dependent on the Delta's water -- hence, improved planning and management leading to demand reduction in all areas is in the best interests of our region, as well as of the entire state.

As already noted, Appendix D consolidates into one statement the various development guidelines found throughout the plan. Appendix E of this document lists the locations (governmental agencies, public interest groups, and libraries) of the technical supplements. These organizations are asked to make the DAPC reports available to interested persons. However, replacement is not possible.

MAJOR FINDINGS

The following are major findings which, for the most part, the Council endorsed in the early stages of its program to give some direction to planning. They do not reflect the entire scope of the plan and should not be relied on as a summary.

1. *The Delta Plan is intended to preserve identified significant resource areas, increase public safety, retain open space, protect and support agriculture, and promote an appropriate and compatible recreation and tourism industry.*
2. *The California Delta in its entirety is a vital part of the Bay-Delta Estuarine System. The present and future ecological well-being of the System depends on wise management of all Central Valley rivers. However, the Delta's unique characteristics require planning and management efforts which are separate from programs for the Sacramento or San Joaquin Valleys. The estuary's ecological integrity is especially dependent upon preservation of Bay and Delta wetlands.*

* See Appendix A for definitions and preliminary listing.

3. *The quality of the water-related environment of the Bay-Delta Estuarine System is dependent upon many interrelated factors, including, but not limited to: adequate freshwater flows as the primary concern; positive downstream net flows; a long and gradual salinity gradient; adequate collection, treatment and disposal of wastes (including industrial, municipal, agricultural and vessel wastes); and retention of the channels and levees in the Delta.*
4. *Little native vegetation remains in the Delta, and riparian vegetation and valley oaks are steadily being removed. The quality of the Delta's recreation is closely related to this vegetation, which also supports wildlife habitat, enhances the fishery, and often resists erosion. Re-vegetation requires several years for even low growth, emphasizing the need to retain present vegetation.*
5. *Agriculture is the highest and best use of productive lands in the Rural Delta and is an activity of local, state, and national significance. Incompatibilities exist between recreation and agriculture, requiring careful management.*
6. *Further deterioration of air quality in the Delta, particularly by pollutants originating in the Bay Area, would have adverse impacts upon the Delta's agriculture-based economy, the health of Delta residents and visitors, and the region's environmental value.*
7. *The numerous and often uncoordinated federal, state, and local government programs by predominantly single-purpose agencies have resulted in uneven and generally inadequate attention being paid to the interests of the Delta community.*

DAPC POLICY FOR DELTA CONSERVATION AND DEVELOPMENT

I. Delta Agriculture Protection Goal

Delta agriculture should be continued and protected as the region's primary industry and open space use, with recreation managed to reduce conflicts.

- Objective - "Prime lands" and those which can support sustained economic production should be identified and protected.
- Objective - Any proposed project in the Rural Delta should ensure the continuation and protection of agriculture and be conditioned to mitigate adverse impacts, where feasible.

II. Delta Historic Resources Preservation Goal

Delta historic, archeological, and cultural resources should be preserved, interpreted, and, where feasible, enhanced.

- Objective - Significant Delta historic resource areas should be identified and protected.
- Objective - Effective methods of historic resource preservation and interpretation should be continuously sought and implemented with the greatest haste to halt irretrievable loss of our heritage.

III. Delta Natural Resources Conservation Goal

Delta natural resources should be protected and, where appropriate, restored and enhanced to preserve their ecological, educational and scientific values for future generations.

- Objective - Significant Delta natural resource areas should be identified and protected.
- Objective - Any proposed project in the Rural Delta should, where feasible, ensure the preservation of significant natural resource areas, open space, and environmental quality, and be conditioned to mitigate adverse impacts.

IV. Delta Natural Hazards Reduction Goal

Delta natural hazards should be reduced by appropriate standards which mitigate the impact of disasters.

- Objective - Significant Delta natural hazard areas should be identified and managed to control incompatible development.
- Objective - Any proposed project in the Rural Delta or in an identified natural hazard area should be sited and designed to ensure public safety is protected and the lowest feasible level of risk incurred.

V. Delta Recreation Enhancement Goal

Delta recreational and tourism activities should be managed and enhanced to reduce conflicts between uses and ensure compatibility with agriculture and environmental quality.

- Objective - Significant Delta recreational resource areas and corridors should be identified and protected, with public investments made according to demonstrated need.
- Objective - Recreational activity and tourism should be distributed and managed according to the area's carrying capacity, with special emphasis on controlling adverse environment impact, increasing public safety, preventing conflicts between uses (especially with agriculture), and controlling trespass and vandalism.

VI. Delta Resource Development Goal

Delta resource use and land development should be managed to ensure the retention of agriculture; the preservation of significant resource areas, environmental quality, and open space; the protection of public safety; and the promotion of a sound, stable economic base for the region.

- Objective - Significant resource production areas should be identified and protected.
- Objective - Industrial and commercial development should be managed to support the regional agricultural and recreational industries without degrading rural and natural qualities and significant resource areas.
- Objective - Transportation planning, routing, construction and operation should avoid adverse population-inducing consequences in the Rural Delta and adverse impact to significant resource areas.

VII. Delta Resource Management Goal

Delta programs, decisions, and projects should be consistent with adopted plans.

- Objective - Governmental programs should be more thoroughly coordinated to reduce fragmentation, overlap, and inconsistency.
- Objective - Projects should be conditioned to preserve, where feasible, significant natural, historic, recreational, and resource production areas, and to mitigate adverse impacts.
- Objective - The Delta Plan should be a basis of all actions in the Delta.

I. DELTA AGRICULTURE

A. GOAL

Delta agriculture should be continued and protected as the region's primary industry and open space use, with recreation managed to reduce conflicts.

B. OBJECTIVES

1. "Prime lands" and those which can support sustained economic production should be identified and protected.
2. Any proposed project in the Rural Delta should ensure the continuation and protection of agriculture, and be conditioned to mitigate adverse impacts where feasible.

C. RECOMMENDATIONS

1. FOR COORDINATED ACTION

- # 1 a. The high quality of Delta soil, both organic (peat) and mineral, should be protected for continued agricultural use. A major factor in land use decisions should be the soil's value for a variety of food and fiber products and its physical carrying capacity.
- # 2 b. Agricultural projects such as irrigation systems, levees, drains, and pumps should be recognized in regulation and investment programs as essential to maintenance and enhancement of agriculture.

2. FOR LOCAL ACTION

- # 3 a. Local general plans should designate as "permanent" (in perpetuity) agriculture and/or open space those non-urban Delta areas (not including approved contiguous growth areas) which have prime agriculture soils or are capable of sustained economic yield.
- # 4 b. Williamson Act contracts, open space easements, zoning, and other methods as they become available should be fully utilized to protect permanent agriculture and open open space lands.

- # 5 c. Agricultural and open space lands should be protected from urban encroachment by controlling the extension of existing service facilities, particularly sewers.
3. FOR STATE OR FEDERAL ACTION *
- # 6 a. Statistics on Delta crop acreages and production values should be compiled annually (OPR, Cal. Dept. Ag., DWR).
- # 7 b. Studies should be continued to provide greater protection for valuable agricultural production lands and in particular those located near urban centers (OPR, Leg.).
- # 8 c. A study should determine the long-term viability of Delta lands for agricultural production based on capabilities to control: soil erosion and subsidence; flood threats; salinity intrusion; salt buildup in soil; and high water tables (DWR, USCE, Cal. Dept. Ag., OPR).



A VIEW ON REUBEN KERCHEVAL'S FRUIT RANCH
AT THE HEAD OF STEAMBOAT SLOUGH, GRAND ISLAND, SACRAMENTO CO., CAL.

* See also recommendations #51 and #57 on levee rehabilitation.
See also #'s 55, 59, 60, 64, 68, and 128.

II. DELTA HISTORIC RESOURCES

A. GOAL

Delta historic, archeological, and cultural resources should be preserved, interpreted, and, where feasible, enhanced.

B. OBJECTIVES

1. Significant Delta historic resource areas should be identified and preserved.
2. Effective methods of historic resources preservation and interpretation should be continuously sought and implemented with the greatest haste to halt irretrievable loss of our heritage.

C. RECOMMENDATIONS

1. FOR COORDINATED ACTION

- # 9 a. Thorough regional and local inventories of significant Delta historic resources, emphasizing archeological sites, should be completed and updated as necessary.* A photo and ownership survey of historic structures should be the first phase of a preservation program.
- #10 b. Locke should be preserved as a living memorial to the contribution of the Chinese people in America, with no social disorganization occurring among present residents. Immediate action should be taken to improve fire protection and control. Eventually the town should become a state historic park.
- #11 c. The Delta King riverboat should be preserved and interpreted as a museum.

2. FOR LOCAL ACTION

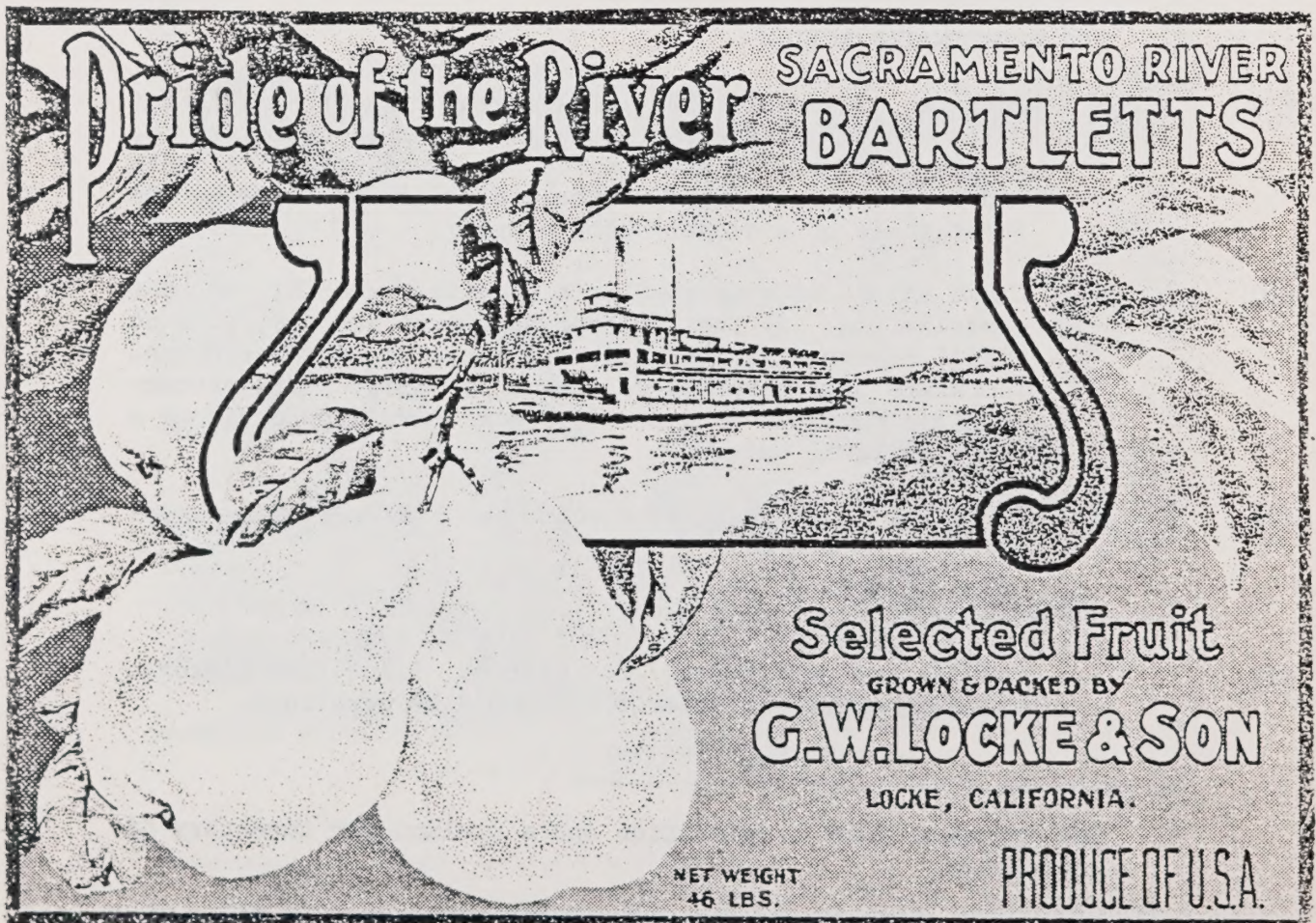
- #12 a. Methods and commitments to protect identified historic areas from adverse alteration should be developed.

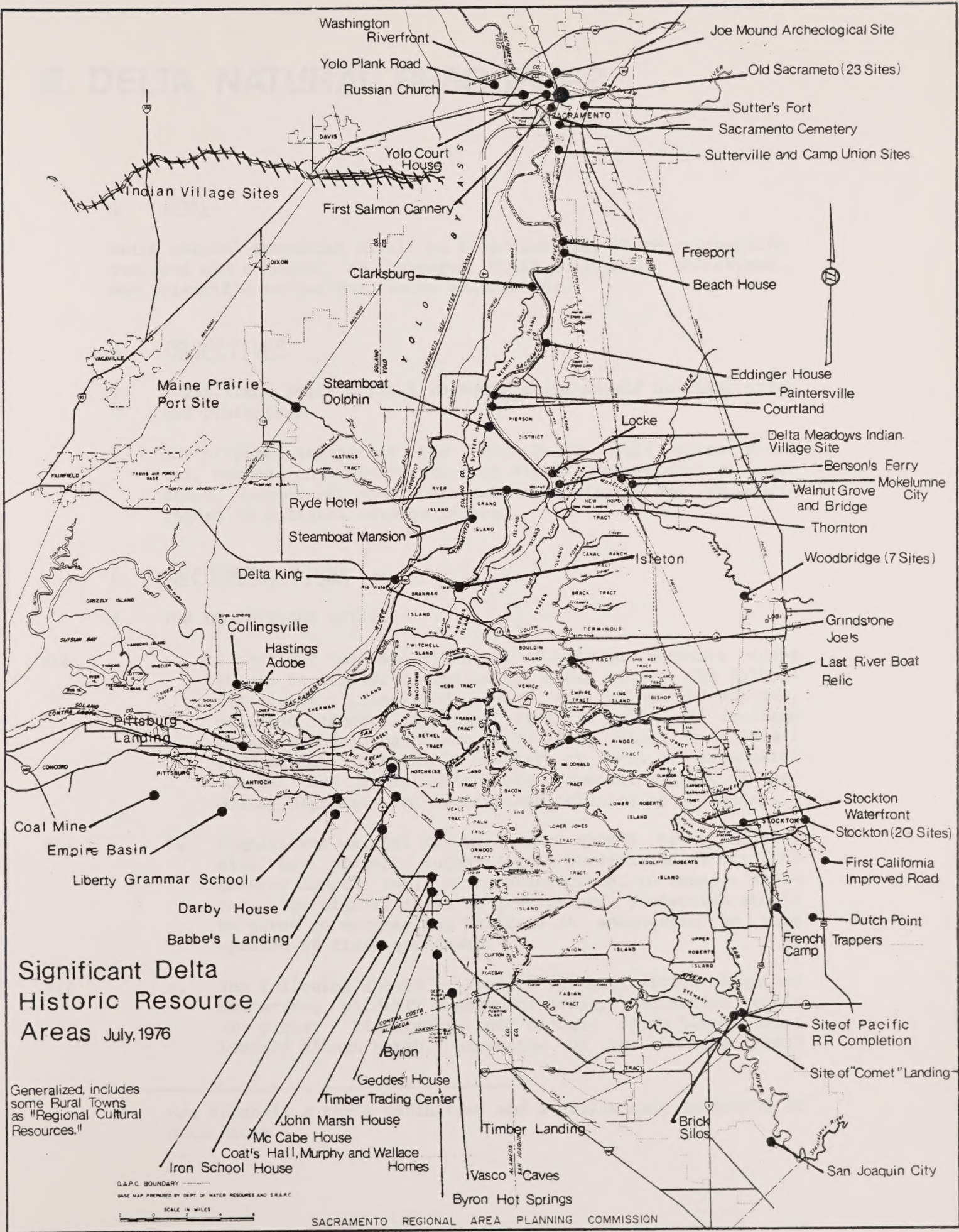
* See Appendix A for a definition and a preliminary inventory of such areas.

- #13 b. Each Delta settlement, town, or villiage, especially those on the rivers which retain rural and scenic qualities, should be considered a "regional cultural resource" with any alterations planned and regulated by the most appropriate methods to ensure compatibility with the town's character. Examples of such towns are: Freeport, Courtland, Walnut Grove, Locke, and Ryde (Sacramento County); Clarksburg (Yolo County); Woodbridge and Thornton (San Joaquin County); and Byron (Contra Costa County).

3. FOR STATE OR FEDERAL ACTION

- #14 a. A thorough preservation plan for the Delta's historic resources, emphasizing archeological sites, should be funded and coordinated with local governments. (DPR, BOR, OPR, HUD)
- #15 b. Existing historic preservation laws should be reviewed and new means should be sought to fund historic resource preservation and interpretation programs. (Leg., Congress, DPR, OPR).





III. DELTA NATURAL RESOURCES

A. GOAL

Delta natural resources should be protected and, where appropriate, restored and enhanced to preserve their ecological, educational, and scientific values for future generations.

B. OBJECTIVES

1. Significant Delta natural resource areas should be identified and protected.
2. Any proposed project in the Rural Delta should, where feasible, ensure the preservation of significant natural resource areas, open space, and environmental quality, and be conditioned to mitigate adverse impacts.

C. RECOMMENDATIONS

1. FOR COORDINATED ACTION

- #16 a. A thorough regional inventory of natural resource areas should be completed, including, among others, the following areas: tree-lined levees and berms; undeveloped, unleveed channel islands; riparian and oak woodland areas; marshes; and areas critical to plant and animal communities (especially habitat of rare and endangered species and areas which are permanent habitat or used during migration for significant colonies of wildlife).
- #17 b. Significant natural resource areas should be protected, with any project authorization conditioned to mitigate adverse impact and, where practicable, to enhance habitat. The highest level of governmental protection should be given to marshes and habitats of endangered or rare species of flora and fauna.
- #18 c. The following should be studied for acquisition as nature preserves, wildlife management areas, recreation areas or parks: Big Break; Lost Slough, Stone Lakes Basin; Lindsey Slough Marsh, expansion of the Cosumnes River

* See Appendix A for a definition and a preliminary inventory of such areas.

Project along Franklin Boulevard; Brown's Island; Eucalyptus Island; Rhode Island; Hog Slough Marsh; White Slough (or Upland Canal) Marsh; Brovelli Woods; and Trapper Slough.

- #19 d. Drainage control methods other than channelizing small streams and drainage courses in concrete should be used to minimize the effects of flood waters in the Delta and to retain natural qualities.
- #20 e. Non-leveed channel islands (known as "spoil," "tidal," or "tule" islands) should be managed so as to retain their natural qualities, except where the long term needs for levee construction materials leave no other feasible alternatives.
- #21 f. Incentives should be improved or developed that would encourage the retention of significant vegetation and habitat areas along roads, waterways, and drainage ditches.

2. FOR LOCAL ACTION

- #22 a. Each County should prepare a thorough study (with state assistance if feasible) of all its waterways to identify appropriate resource and recreational uses. Such studies should be compatible with the criteria of the Delta Waterways Use Program.
- #23 b. To ensure new developments are compatible with the Delta's significant resource areas, its environmental quality, and its scenic open space, areawide development standards, based on the Delta Action Plan, should be used. (See Appendix B and D.)
- #24 c. To protect Delta scenic qualities, off-premise advertising signs should be prohibited along the Delta waterways, river roads, and in the Rural Delta areas, except for regulated directional signs.
- #25 d. Local general plans should designate as "permanent" (in perpetuity) agriculture and/or open space those non-urban areas of the Delta which have "prime" agriculture soil and those capable of sustained economic yield; have inadequate flood protection for urban or industrial uses; are significant resource areas, or are adjacent to waterways shown as Natural Areas in the Delta Waterway Use Program. (See Appendix B)

- #26 e. The possibility of requiring proof of ownership prior to accepting property taxes on non-leveed channel islands should be investigated.
- #27 f. Weed abatement ordinances should be amended as necessary to ensure overly stringent standards do not cause vegetation destruction in areas which should remain natural.
- #28 g. The state oil spill contingency plan (by DFG) should be widely studied at the local level and its use described in emergency and safety plans.
- #29 h. Consolidation of existing sewage plants should be emphasized wherever feasible, but with an awareness that increased discharge quantities from a single terminus often create serious localized problems. Methods of reclamation and reuse, especially for agriculture, should receive high consideration. New plants should be built to permit upgrading to higher levels of treatment as funds and methodology become available. Any adverse impact of plant siting on existing land uses should be resolved prior to location.
- #30 i. The "DAPC Statement of California Water Use and Conservation Principles" should be considered and adopted by governing boards (see Appendix C).
- #31 j. Oaks are recognized special resources in the Delta and should be protected where appropriate by local policies and regulations.
- #32 k. Land and transportation planning should work toward the achievement and maintenance of state and national ambient air quality standards.
- #33 l. Air quality maintenance planning efforts in the Delta's three air basins should be actively supported with increased coordination to achieve and maintain healthy levels of air quality.
- #34 m. The State Department of Fish and Game should be supported in enforcement of state requirements to review all streambed alterations which may have an adverse impact the fishery (see Fish and Game Code Sections 1601-1602 and 1505).

3. FOR STATE OR FEDERAL ACTION

- #35 a. A regional soil conservation and replenishment program (including compost substitution and planting of wind-break vegetation) should be developed to resist and reverse the impacts of peat subsidence, erosion, and oxidation. The program should include continued analysis of compost substitution, such as in the Bay-Delta Resource Recovery Demonstration Project. (DWR, USCE, Dept. of Cons., ABAG)
- #36 b. To protect Delta scenic qualities, utility corridors should be located so as to have the minimum impact upon significant resource areas and to utilize existing corridors wherever feasible. (PUC, EBMUD)
- #37 c. The ownership of undeveloped, unleveed channel islands should be determined and squatters should be removed from publicly-owned islands. (State Lands, AG, Leg.)
- #38 d. Standards for control of water surface vegetation should be developed, with consideration given to methods other than herbicides, particularly in natural waterways. (State Dept Ag., Dept. Health, SWRCB)
- #39 e. More general funds monies should be invested in non-game species management, law enforcement, and habitat preservation. (Leg., DFG)
- #40 f. A comprehensive "Delta Fish and Wildlife Management Plan" should be prepared in conjunction with local agencies, emphasizing preservation of marshland habitat for waterfowl, improved management of the crayfish resource, protection and enhancement of riparian habitat, and management of non-game species. (DFG, Leg., USFWS)
- #41 g. The Delta Fish and Wildlife Protection Study should be continued in order to achieve full protection for fish and wildlife resources which can be adversely affected by Delta water facilities and or export of water from the Delta. (DFG, DWR, USBR, USFWS, Leg.)
- #42 h. Levee maintenance requirements should be developed for the Delta to permit retention of woody vegetation on levees of adequate cross section, consistent with sound flood control practices. (USCE, Congress, DWR, Rec. Bd., Leg.)

- #43 i. Adequate freshwater flows and water quality standards should be provided for all parts of the Delta. Supporting regulation should be made applicable to both state and federal projects. Monitoring may indicate need for later, more stringent upgrading of standards. Federal, state, and special agencies should further coordinate planning and management actions which directly or indirectly affect Delta water quality. (DWR, USBR, SWRCB, Leg., Congress)
- #44 j. Monitoring and control of metals (especially mercury) and other pollutants in Delta waters should be emphasized. (SWRCB)
- #45 k. No water project or program affecting the Delta -- including a Delta water transfer facility and the San Luis Drain -- should be built or implemented or operated unless such facilities or programs will not add to existing problems or create new problems in the Delta; sufficient technical environmental and economic impact data exists to support professional evaluation of the proposed action; and all concerned public and private groups have had an active role in critiquing the project or program as it is planned. (Leg., Congress, DWR, USBR, USCE)
- #46 l. The mission and authority of the State Water Resources Control Board should be fully retained and supported. The integrity of the Porter-Cologne Act should not be abridged. (Leg.)
- #47 m. Continuing high priority efforts by the state should seek to resolve the insufficiencies of split federal-state water management in this state. Federal agencies should be required to conform to state laws, SWRCB regulations, and operational agreements with DWR. (Congress, Leg., DWR SWRCB, USBR)

IV. DELTA NATURAL HAZARDS

A. GOAL

Delta natural hazards should be reduced by appropriate standards and programs which increase public safety and mitigate the impacts of disasters.

B. OBJECTIVES

1. Significant Delta natural hazard areas should be identified and managed to control incompatible developments.
2. Any proposed project in the Rural Delta or in an identified natural hazard area should be sited and designed to ensure the public safety is protected and the lowest feasible level of risk incurred.

C. RECOMMENDATIONS

1. FOR COORDINATED ACTION

- #48 a. The Federal Flood Disaster Protection Act of 1973 should be used as the basis of all future structural and non-structural management plans and decisions for flood prone areas.
- #49 b. A major factor in land use decisions should be the structural limitations of the soil's carrying capacity.
- #50 c. All projects using public funds should be reviewed to determine if they might have a growth-inducing impact within the flood-prone area or the Rural Delta. Such projects should be altered or denied if a significant impact is found.

2. FOR LOCAL ACTION

- #51 a. The Delta Cities and Counties should endorse in principle the general concepts of DWR Bulletin No. 192, "A Plan for Improvement of the Delta Levees" and should seek joint federal-state implementation as the highest priority. Such concepts endorsed in principle include:

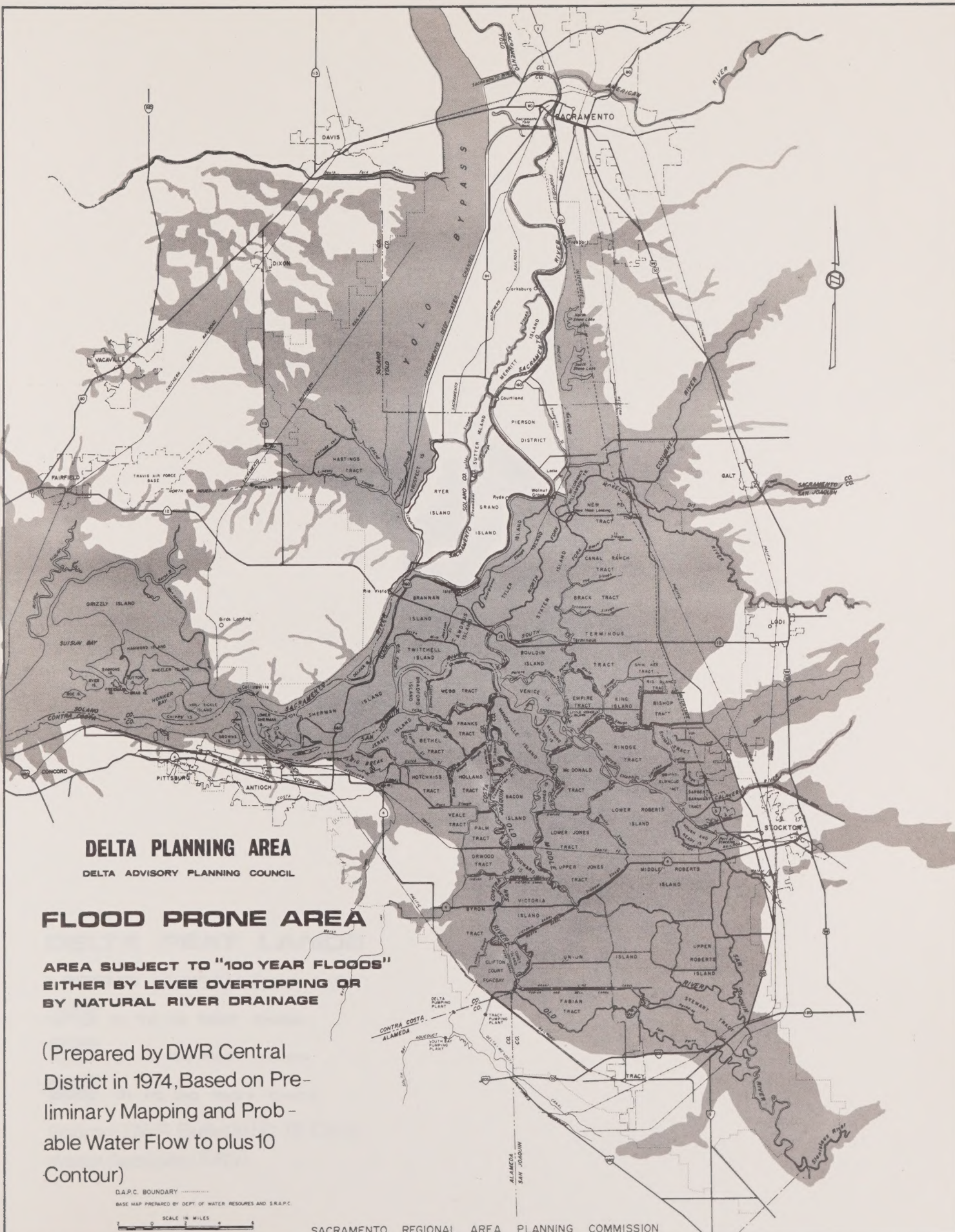
- Maximum shared use of existing studies to reduce lead time.
- 100-year flood protection for urban areas and 50-year protection in agricultural areas.
- A multiple-purpose approach to levee maintenance and rehabilitation.
- Shared federal-state funding for levee maintenance and rehabilitation.
- Retention of existing significant vegetation consistent with sound flood control practices.

- #52 b. A thorough inventory of significant natural hazard areas* should be completed, including a large-scale map and definitions. Such areas should include areas of flood, fire, and earthquake hazards.
- #53 c. Methods, guidelines, policies, and ordinances should define and control "acceptable low-risk" and "flood proofed" development in hazard areas.
- #54 d. All permit requests for major construction projects in the Delta's peat and expansive soil areas should be accompanied by soils engineering reports.
- #55 e. Local governments should cooperate with state and federal agencies in defining flood plains and flood prone areas and should participate in the Federal flood insurance program. Flood plain and flood prone areas in the Delta should be retained in open space and agricultural uses through appropriate means.
- #56 f. Fire, police, and emergency medical services should be upgraded in the Delta, with consideration of developing an emergency airborne rescue service.

3. FOR STATE OR FEDERAL ACTION

- #57 a. A joint federal-state levee rehabilitation program should be undertaken as the highest priority, based on the general concepts proposed in the DWR Bulletin No. 192, "A Plan for Improvement of the Delta Levees" and the maximum shared use of existing studies to reduce lead time. (DWR, Res. Ag., USCE, Leg., Congress)

* See Appendix A for a definition.



DELTA PLANNING AREA

DELTA ADVISORY PLANNING COUNCIL

FLOOD PRONE AREA

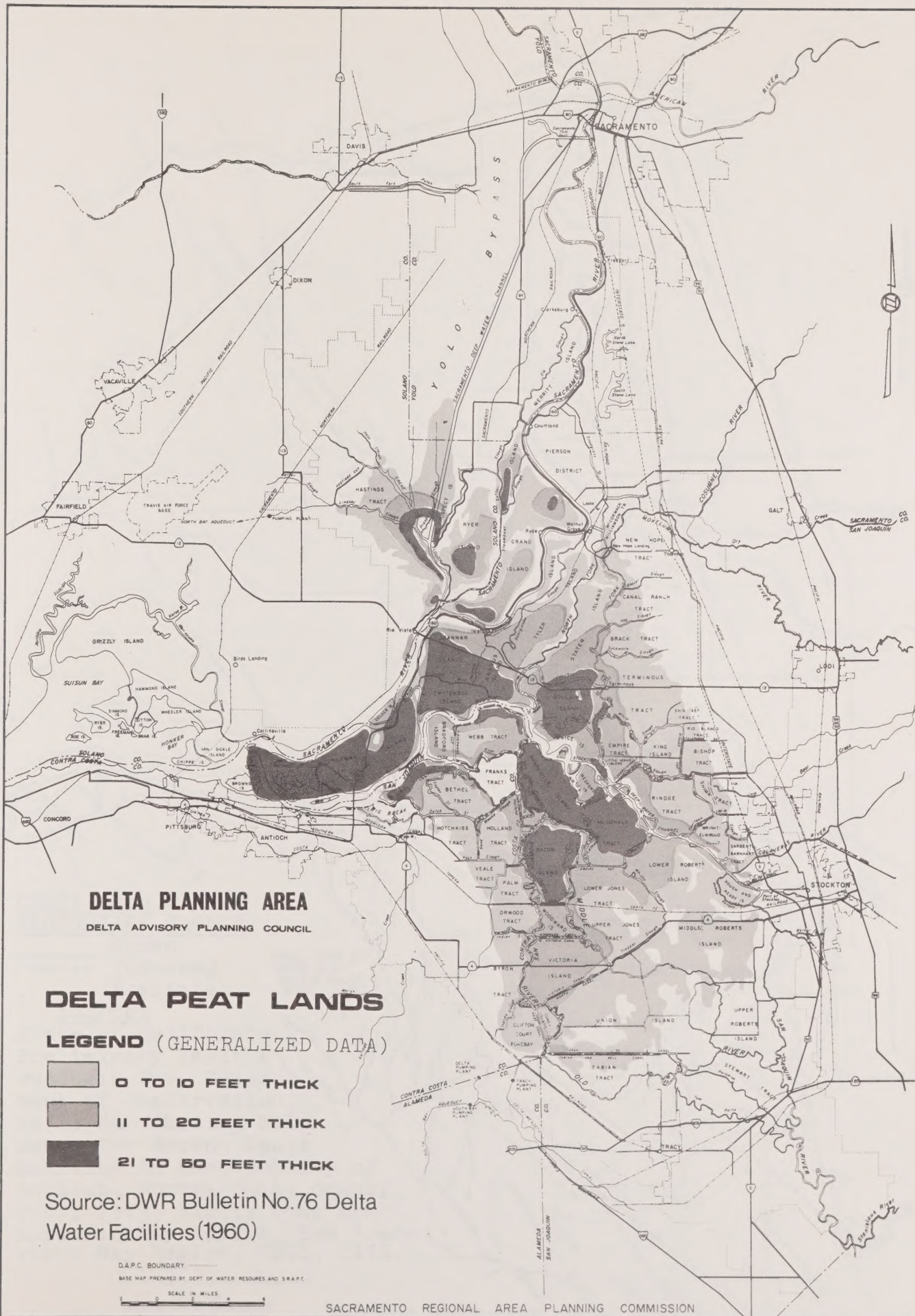
AREA SUBJECT TO "100 YEAR FLOODS"
EITHER BY LEVEE OVERTOPPING OR
BY NATURAL RIVER DRAINAGE

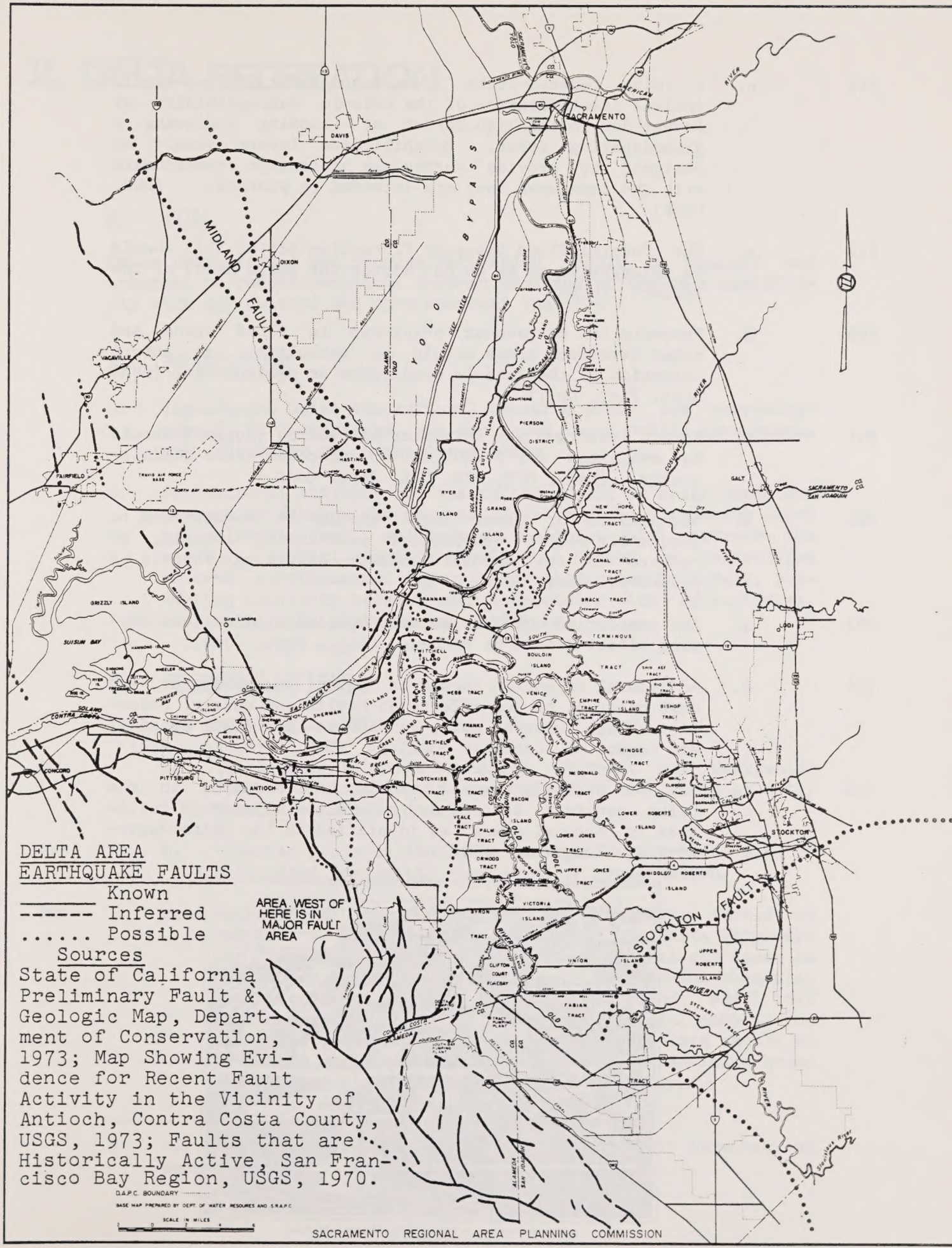
(Prepared by DWR Central
District in 1974, Based on Pre-
liminary Mapping and Prob-
able Water Flow to plus 10
Contour)

D.A.P.C. BOUNDARY
BASE MAP PREPARED BY DEPT. OF WATER RESOURCES AND S.R.A.P.C.

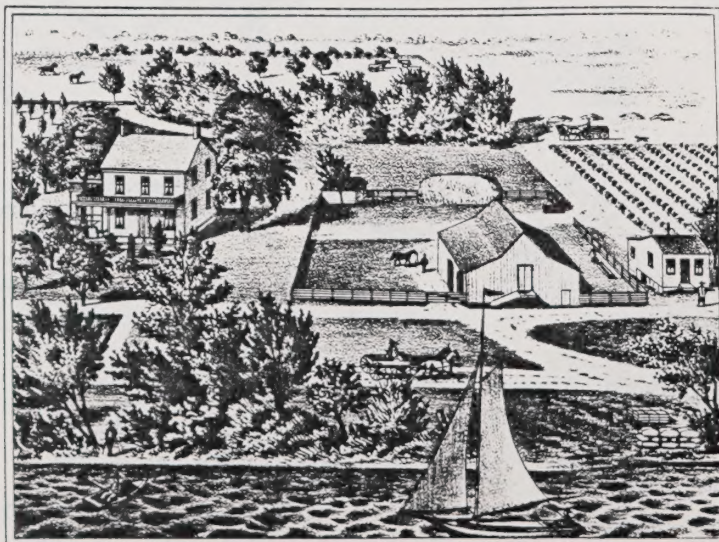
SCALE IN MILES

SACRAMENTO REGIONAL AREA PLANNING COMMISSION





- #58 b. A joint federal-state levee improvement program should include identification of the seismic susceptibility of levees due to the high threat of flooding following a groundshaking event. Rehabilitated levees should be designed to provide earthquake protection commensurate with the land uses they are intended to protect. (DWR, USCE)
- #59 c. The Federal Flood Disaster Protection Act of 1973 should be interpreted so as to not affect the valid needs of the farmer. (HUD)
- #60 d. Property tax assessment practices in flood prone and other hazardous areas should be established to ensure retention of the land in open space or agriculture. (OPR, Dept. Fin., Leg.)
- #61 e. Hazard reduction and disaster mitigation programs should be evaluated for consolidation under one state administrator. (Leg., OPR, OES, DWR, Dept. Cons.)
- #62 f. Legislation or other means should be established to adequately notify prospective purshasers, lessees, or renters of the natural hazards affecting parcels of property. (Leg., OPR)
- #63 g. The completion of the seismic Special Studies Zone mapping effort should be funded. (Leg., Dept. Cons.)
- #64 h. Additional attention should be given to windborne peat dust because of its effects on health and safety, reduction of agricultural soil, subsidence of Delta islands, and impact on local air quality. (DWR, Dept. Ag., ARB)
- #65 i. Snag and obstacle removal should be increased in the Delta provided it does not reduce the wilderness qualities in "Natural Areas" as identified in the Delta Waterways Use Program. (USCE)



VIEW ON THE FRUIT RANCH OF GEO. A. KNOTT, 250 ACRES, ANDRUSS ISLAND, SACRAMENTO CO. CAL.

V. DELTA RECREATION

A. GOAL

Delta recreational and tourism activities should be managed and enhanced to reduce conflicts between uses and to ensure compatibility with agriculture and environmental quality.

B. OBJECTIVES

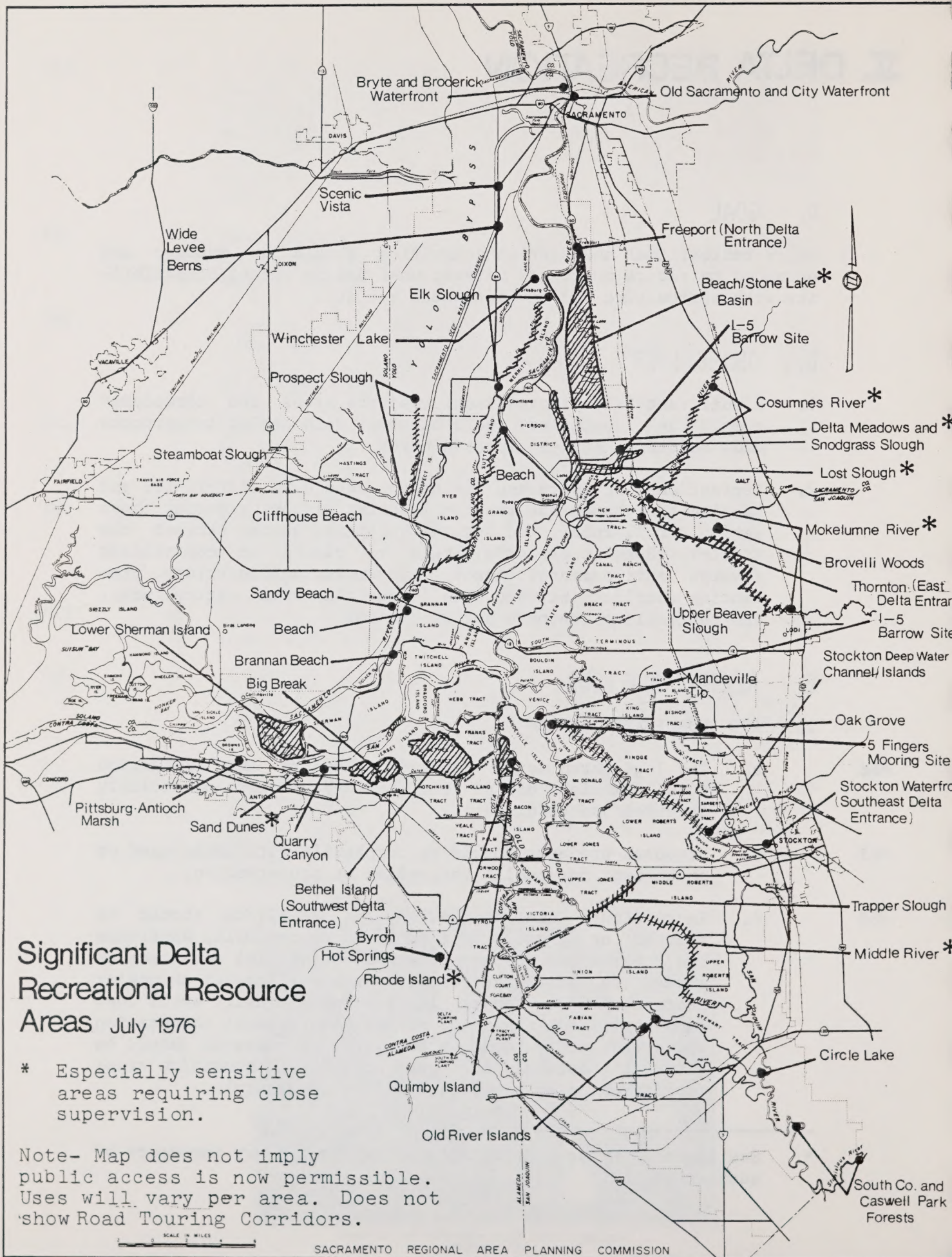
1. Significant Delta recreational resource areas and corridors* should be identified and protected, with public investments made according to demonstrated needs.
2. Recreational activity and visitation should be distributed and managed to enhance the tourism industry without reducing those agricultural, rural, and natural qualities which attract the visitor. Special emphasis should be placed on controlling adverse environmental impact, increasing public safety, preventing conflicts between uses (especially with agriculture), and controlling trespass and vandalism.

C. RECOMMENDATIONS

1. FOR COORDINATED ACTION

- | | |
|-----|---|
| #66 | a. The legislated noise standards (Harbors and Navigation Code, Sections 654.05 and 654.06) should be strictly observed and enforced. |
| #67 | b. Proposed projects should be compatible with lands used or authorized for public recreation or preservation. |
| #68 | c. Recreational use congestion and conflicts should be reduced or avoided by such means as the Delta Waterways Use Program and the establishment of special use areas as needed on land and water, such as: no-ski channels; restricted wake zones; limited speed zones; small boat (non-motorized) channels; nature study areas; competition ski areas; and swimming areas. Special emphasis should be given to establishing wake controls in sensitive areas (codification of procedures may be necessary). |

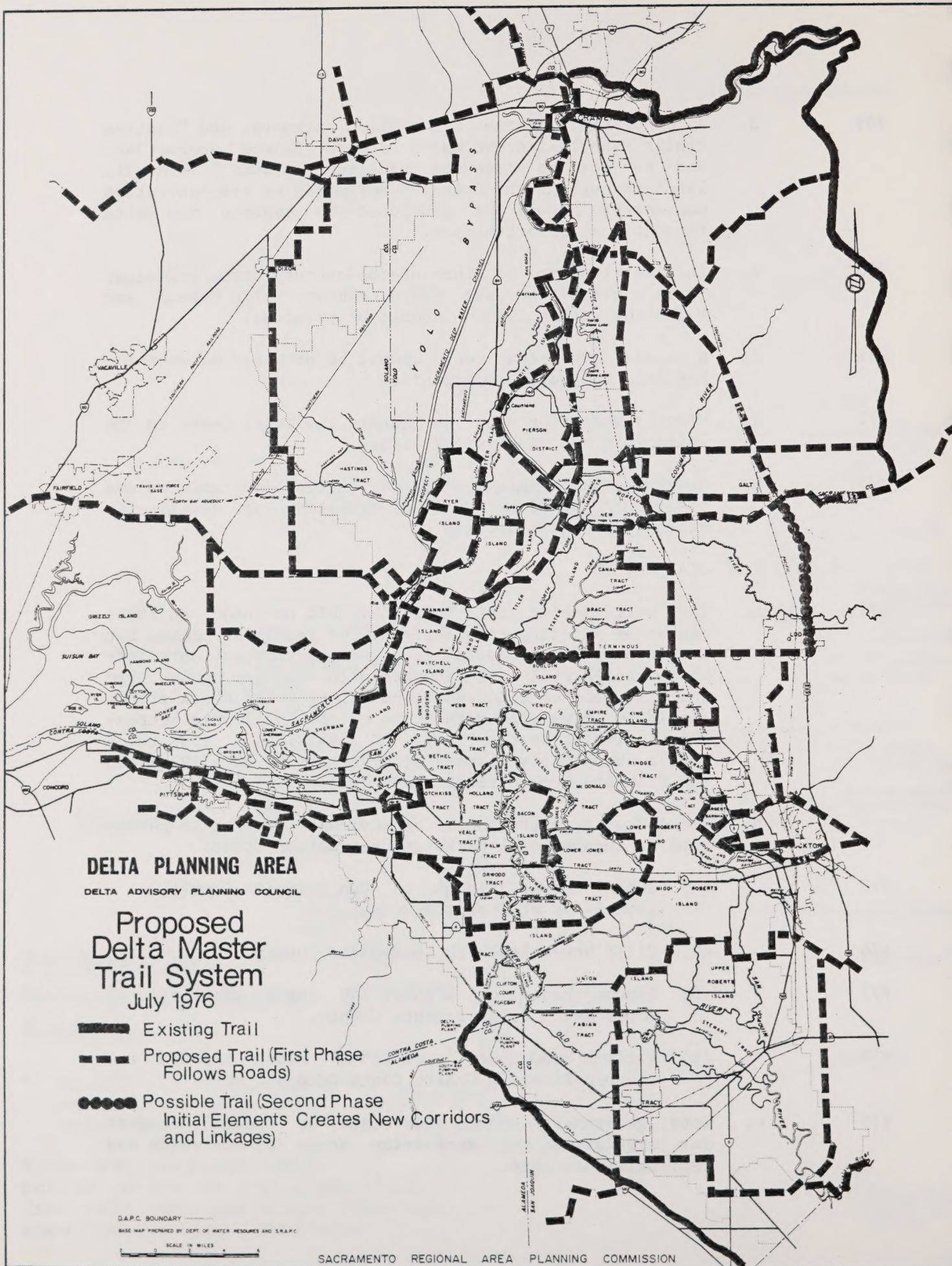
* See Appendix A for a definition and a preliminary inventory of such areas.



- #69 d. A connecting system of trails, parkways, and "boating trails" should improve water access (where appropriate and subject to adequate management) and link public lands throughout the Delta. New modes of transportation management should be developed to enhance the Delta recreational opportunities.
- #70 e. The development of turn-of-the-century style passenger train tours between the Old Sacramento Train Museum and Walnut Grove and Isleton should be promoted.
- #71 f. A regular river-boat tour should be promoted between the Bay Area and Delta communities.
- #72 g. Efforts should be made to return the Delta Queen to the Delta from the Mississippi River.
- #73 h. Brochures explaining Delta recreation opportunities and restraints should be well distributed, as should the state's waterways use map.

2. FOR LOCAL ACTION

- #74 a. The "Delta Master Trail System" should be based on roads and other existing rights-of-way for its first phase, but local governments should also seek appropriate corridors where trails will not compete with cars and agriculture and are subject to adequate policing. The Delta trails should be integrated with those of the California Recreational Trails System Plan (AB 3594, 1974) and those trails and hostels planned according to SB 420 (1973) and the Caltrans nonmotorized transportation program.
- b. The following areas should be reviewed for their potential as future local parks and recreation areas:
 - #75 (1) Upper Beaver Slough in San Joaquin County, especially at Thornton Road.
 - #76 (2) Cliff House Beach in Sacramento County.
 - #77 (3) Unnamed beach on Highway 160 south of Cliff House Beach in Sacramento County.
 - #78 (4) Antioch Sand Dunes (two sites) along the San Joaquin River in Contra Costa County.
- #79 c. Local governments should seek state or federal support for acquisition of recreation areas of statewide and regional importance.



- d. The appropriate Delta Counties, in close cooperation with state agencies, should consider parkway or "boating trail" (see Public Resources Code Section 5071.76(b)) plans for the following waterways:
- #80 (1) Sacramento River from the I Street Bridge to the Carquinez Strait edge of the DAPC planning area. (Sacramento-Yolo-Solano-Contra Costa Co.)
 - #81 (2) Mokelumne River from Highway 99 to New Hope Landing. (San Joaquin-Sacramento Co.)
 - #82 (3) Cosumnes River from Highway 99 to the Mokelumne River. (Sacramento Co.)
 - #83 (4) Southern portion of Old River. (San Joaquin Co.)
 - #84 (5) Southern portion of Middle River. (San Joaquin Co.)
 - #85 e. Swimming area locations should be sought and established.
 - #86 f. Further consideration should be given to river roads as designated scenic highways.
 - #87 g. Uniform policies and standards of enforcement should be adopted where practicable with evaluation of an agreement establishing a joint Delta boat patrol.
 - #88 h. The San Joaquin County experience in developing a County warden program should be studied by the other Delta Counties to find means of increasing fish and game management and enforcement in the Delta.
 - #89 i. Appropriate waterfront projects which invite public use should provide access to and along waterways in conformance with provisions of the State Subdivision Map Act (Section 65000 et. seq. Government Code). In urban areas these projects should include public walkways and should be designed to be compatible with the environment.
 - #90 j. Each town or urban waterfront should be used for water-dependent activities, especially those supporting recreation and tourism. Riparian vegetation should be retained and enhanced to improve the environmental and recreational experience.

#91 k. The concept of "Regional Touring Corridors" should be
See also included in local plans as a means to guide car tourism
#108 along scenic routes and into commercial and recreational
 areas designed for visitational uses. High priority
 should be given to upgrading these roads and in creating
 adequate sholder and scenic vista pullouts to improve
 traffic safety and enhance tourism. Such corridors
 should include: Highway 84 from the Solano-Yolo County
 line to the Ryer Island Ferry, over the Rio Vista Bridge
 to Highway 160 north to Freeport; Franklin Road from
 Twin Cities Road, southward through the Cosumnes River
 overflow area (with its scenic elevated "white-picket
 fence" road) to Thornton Road (the name of the road
 changes as it crosses the Cosumnes/County line), south-
 ward to New Hope Road, and east to 99; and other scenic
 roads along waterways.

3. FOR STATE OR FEDERAL ACTION

#92 a. A detailed Delta recreational use survey and recreational
 resource area inventory should be completed with local
 agencies to improve carrying capacity determinations and
 use projections. The following factors should be con-
 sidered: the prospect of population growth slow-down;
 the effect of a continuing energy shortage; the long-
 range effect on recreational movement by the development
 of new modes of transportation; the degree of usage by
 non-Delta residents; scope of impact by non-county recre-
 ationists; and impact of other uses. The resource inven-
 tory should include, but not be limited to existing and
 potential beaches, boat mooring and launching sites,
 fishing access sites, swimming area, scenic routes with
 vista pull-out points, and waterways access corridors.
 (DPR, DNOD, DWR, USCE, Counties)

#93 b. Recreational land access should be developed only at
 specific sites established and policed for such uses, in
 order to reduce adverse impact on levee stability, wild-
 life habitat, agriculture, and adjacent landowners. (DPR,
 DWR, USCE, Counties)

#94 c. The concept of "restricted wake areas" should be clari-
 fied and established in legislation if necessary and
 thereafter implemented as a high priority in sensitive
 areas. (AG, Res. Ag., DNOD, Leg.)

#95 d. The distribution of boat taxes should be reviewed to
 provide tax relief to counties-of-impact. (Leg. DNOD,
 Dept. of Fin.)

- e. The following areas should be reviewed for acquisition and use as parks, recreation areas, or as wildlife management areas where some recreational uses are possible (DPR, DFG):

- #96 (1) Lost Slough, including the marshy interface of water exchange between its southern arm and Cosumnes River side channels at Franklin Road; and Snodgrass Slough (remnants of the original Delta Meadows project).
- #97 (2) Big Break.
- #98 (3) Cosumnes River overflow basin and river side channels, for addition to the Cosumnes Park (for non-intensive use only).
- #99 (4) Channel islands in Prospect Slough.
- #100 (5) Rhode Island.
- #101 (6) Eucalyptus Island.
- #102 (7) Brovelli Woods.
- #103 (8) Trapper Slough.
- #104 f. Areas authorized for state parks in the Delta should be designated as "natural preserve" or "wilderness" areas as provided for in Public Resources Code Section 5001.5, wherever such designation is appropriate. (DPR)
- #105 g. The legalities of defining state owned Delta tidal property should be resolved as soon as possible to expedite acquisition of long-pending park projects and to ensure that future authorizations can occur without losses from delay and inflation. (AG, Leg., DPR, State Lands)
- #106 h. The state trails and parkway planning programs should be improved. (DPR, Res. Ag., CalTrans)



VI. DELTA INDUSTRY

COMMERCE AND TRANSPORTATION

A. GOAL

Delta resource use and land development should be managed to ensure the retention of agriculture; the preservation of significant resource areas, environmental quality, and open space; the protection of public safety; and the promotion of a sound, stable economic base for the region.

B. OBJECTIVES

1. Significant resource production areas* should be identified and protected.
2. Industrial and commercial development should be managed to support the regional agricultural and recreational industries without degrading rural and natural qualities and significant resource areas.
3. Transportation planning, routing, construction and operation should avoid population-inducing consequences in the Rural Delta and adverse impact to significant resource areas.

C. RECOMMENDATIONS

1. FOR COORDINATED ACTION

#107 a. Public and private efforts should be encouraged to develop new waterborne transportation systems for passenger movement and commerce.

#108 b. Proposals for new public road corridors and major expansions of existing routes in the Delta should be evaluated critically for environmental and social impact. High priority should be given to improving the safety of existing roads and in creating adequate shoulder and scenic vista pull-outs to improve traffic safety and enhance tourism.

2. FOR LOCAL ACTION

#109 a. Local general plans and development ordinances should accommodate industries which support other Delta economic activities in a manner compatible with environmental quality and the Delta Waterways Use Program. (See Appendix B)

* See Appendix A for a definition.

- #110 b. Industrial developments should be clustered in appropriate areas and should not unnecessarily intrude on "prime" agricultural lands, lands capable of sustained economic yield, or identified significant natural resource areas, particularly marshlands. Design should emphasize compatibility with the landscape in siting and coloring. Facilities should be located, whenever feasible, out of view from the waterways and roads which support tourism.
- #111 c. Industrial and commercial developments (including marinas) along waterways should be limited to those which are water-dependent, do not unduly impair navigation, and do not create adverse impacts to significant resource areas, according to standards established in the Delta Waterways Use Program and the Delta Action Plan. (See Appendix A, B, and D)
- #112 d. Mineral extraction operations should minimize adverse visual impact and the possibility of pollution and subsidence. Abandoned quarries and barrow sites should be reviewed for use as ground-water recharge basins and reclaimed for recreation, conservation or farmlands, where feasible. As a minimum, scenic and safety detriments should be removed.
- #113 e. Any proposals for new ports or expansions in the Delta-Bay Area should be critically evaluated for possible duplication of services and adverse economic impacts.
- #114 f. The feasibility of a Delta bus system to meet rural transportation needs and to support Delta tourism and recreation should be studied.
- #115 g. Each town or urban waterfront should be used for water-dependent activities, especially those supporting recreation and tourism (e.g., scenic public walkways, water-view restaurants, fishing access, small parks, historic interpretation projects). However, riparian vegetation should be retained and enhanced to add to the waterfront's scenic attraction.
- #116 h. Commercial facilities necessary to support recreation or agriculture should be confined wherever possible to existing urban areas, at marinas or as concessions in public parks. Such activities should not be established in or adjacent to identified natural areas.

3. FOR STATE OR FEDERAL ACTION

- #117 a. Reconsideration should be given to a Bay-Delta transit system to link a variety of transportation modes at common terminals, permitting easy movement between Sacramento, Stockton, Lodi, and the Bay Cities. However, such a system should not include stations where resulting population growth and development will cause intrusion into the Rural Delta. (CalTrans)
- #118 b. All gas and oil pipelines in the Delta should be mapped to facilitate state and local land use planning. (Dept. Cons., OPR, State Lands)
- #119 c. The Interstate 5 linkup between Sacramento and Stockton should be completed as soon as possible, with special care taken to minimize adverse impact to identified significant resource areas, especially the Lost Slough and Cosumnes River area. (CalTrans, Leg.)
- #120 d. Use of the strong Delta winds as an energy source in future programs should be evaluated. (En. Comm., Leg., Congress, Fed. En. Comm.)
- #121 e. Dredging spoils should not be placed where they would cause an adverse impact on wetlands or identified significant resource areas. (USCE, private sector)



VII. DELTA RESOURCE MANAGEMENT

A. GOAL

Delta programs, decisions, and projects should be consistent with adopted plans.

B. OBJECTIVES

1. Governmental programs should be more thoroughly coordinated to reduce fragmentation, overlap, and inconsistency.
2. Projects should be conditioned to preserve, where feasible, significant natural, historic, recreational, and production resource areas, and mitigate adverse impacts.
3. The Delta Action Plan should be a basis of all actions in the Delta.

C. RECOMMENDATIONS

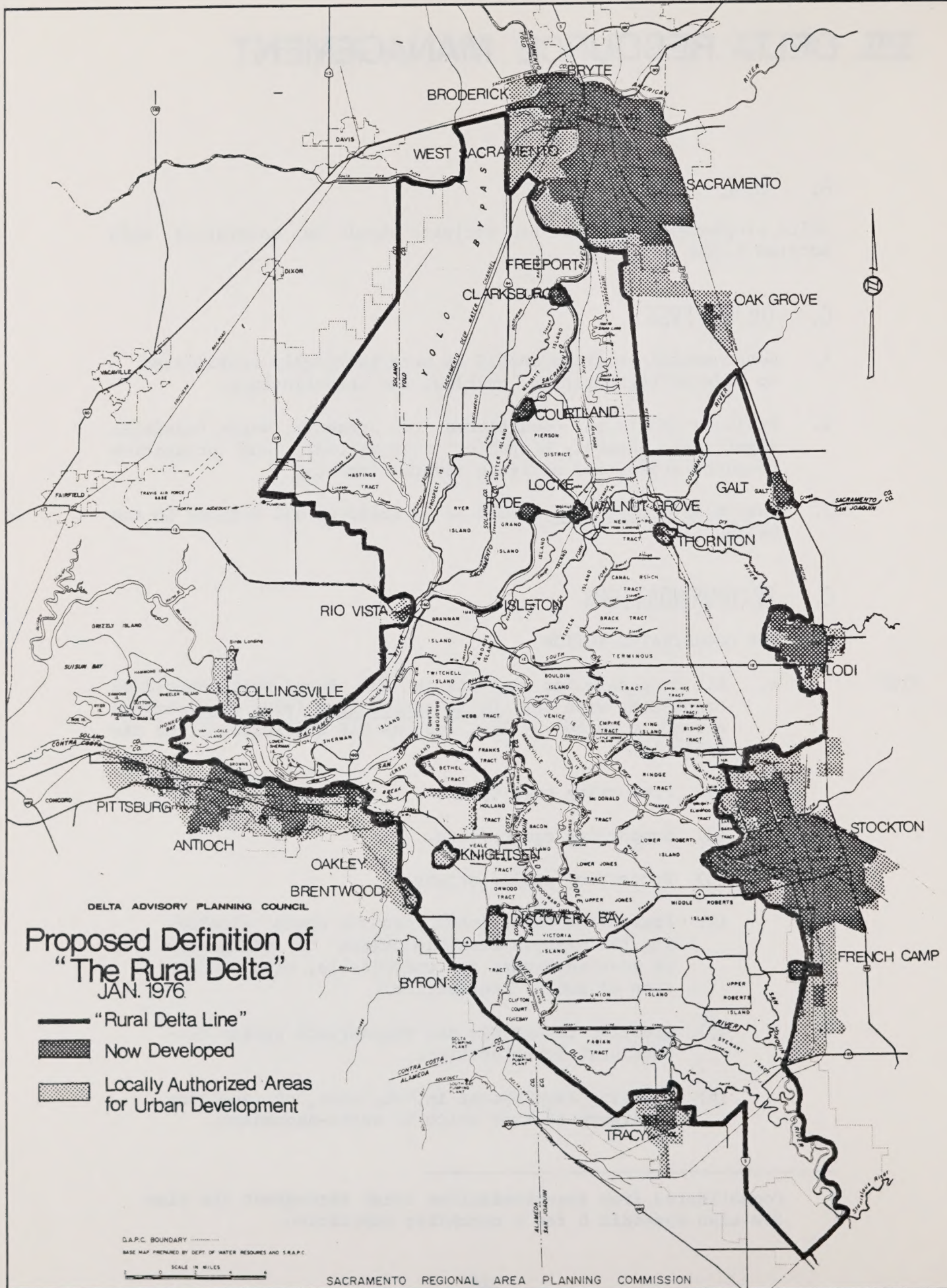
1. FOR COORDINATED ACTION

#122

- a. All proposals for projects in the Rural Delta should be consistent with the Delta Action Plan (plus requirements already required by law, such as EIR sufficiency) and its goals of:*

- (1) Preserving open space.
- (2) Supporting agriculture.
- (3) Protecting public safety.
- (4) Preserving significant resource areas (including the highest feasible degree of mitigation if adverse impact is unavoidable, with evaluation of public acquisition).
- (5) Creating compatible and appropriate public recreational opportunities.
- (6) Limiting development in, on, over, or abutting waterways to that which is water-dependent.

* Consolidated from recommendations found throughout the plan. See also Appendix D for a checklist adaptation.



- (7) Maintaining through-navigation in waterways.
- (8) Encouraging compatibility of developments with the surrounding setting.
- (9) Encouraging retention of woody vegetation and re-vegetation of appropriate areas with native or otherwise beneficial growth.
- (10) Minimizing growth-inducing impacts on the Rural Delta and/or flood prone areas.
- (11) Protecting lands used for or authorized for public recreation or preservation from adjacent or nearby adverse uses.
- (12) Encouraging uniform and consistent use of adopted state, regional, and local plans.

#123 b. The Delta Waterways Use Program (see the 1976 Delta Master Recreation Plan, The Resource Agency, and Appendix B of this document) should be studied carefully with any proposed refinements addressed to the Resources Agency. Thereafter the program should be considered for adoption by all agencies as the standards for waterways use management, with revisions made periodically as necessary.

#124 c. An existing agency should be designated to coordinate the administration of federal, state, and local permits through a "Delta Permit Forum." Such an intergovernmental forum should be convened at regular intervals to provide a one-time review of all proposed multiple-permit projects. Each permit and review agency would continue to exercise its present assigned function, but with the advantage of full information and coordination at one time.

#125 d. Significant resource areas (historic, natural, recreational, and production), as well as natural hazard areas, should be more thoroughly inventoried in a consistent, uniform framework through a multi-agency state, local, and regional effort, aided with state funding and coordinated by the Resources Agency. (See Appendix A for a preliminary inventory of these areas.)

#126 e. Significant resource areas (historic, natural, recreational, and production) as identified in the Delta Plan and any future local and/or state inventory, should be given a high level of protection from adverse alterations, with the most extensive feasible mitigation when

an adverse impact is unavoidable. Evaluation of public acquisition should occur. If such mitigation is insufficient to protect the resource, the development or zoning should be denied or altered unless it can be shown to be overwhelmingly in the general public interest.

#127 f. The feasibility and funding sources of a Delta open space/recreation area acquisition program should be studied.

#128 g. A high level of emphasis should be given to resolving the difficult inter-related issues and concerns involved in levees, their maintenance, and their rehabilitation. The following "DAPC STATEMENT OF DELTA LEVEE PRINCIPLES"* should be incorporated into all decisions:

I. Levees should be identified for conversion to multiple-purpose standards with public funds, according to a comprehensive policy and plan which clarifies priorities in the public interest and allocates cost sharing for maintenance.

II. Levee construction, rehabilitation, maintenance, and any future public fiscal assistance, should be based on well-developed, uniform, multiple-purpose flood control standards, which include the following considerations:

A. Protection of significant vegetation on levees identified as "Natural Areas," consistent with sound flood control practices.

B. Exemption by the Resources Agency from environmental standards for those substandard levees (which are not classified as "Natural Areas") having inadequate cross-section to support vegetation.

C. Minimum flood control standards (including emergency procedures) which protect public safety and reduce both the flood hazard and the public costs of post-disaster intervention.

D. Prohibition of the use of fire for vegetation control on peat levees.

* Consolidated from recommendations found throughout the plan.

- E. Prohibition of the use of fire, disking, and chemical defoliants in identified natural areas. Increased costs of maintenance should be borne by public funds.
- F. Limitation of rip-rap (stoning) above the mean high water mark on levees, except in channels of high velocity flow and extreme wind impact (to reduce the danger of overloaded levees in a seismic groundshaking event).
- G. Limitation of rip-rap materials to rock or concrete blocks no larger than two feet on a side, without protruding steel rods.
- H. Mandatory phased (at a reasonable pace) removal from levees of car hulks, non-conforming concrete blocks, and all other hazardous and unsightly materials.
- I. Evaluation of the use of such techniques as treated timber and "waffle blocks."
- J. Restricted wake controls for levees especially vulnerable to boat-generated waves, with review of costs sharing means.
- K. Financial assistance for the implementation of these standards, as feasible, through a shared funding approach for beneficiaries.

III. A plan for multiple-purpose levee rehabilitation should be completed as rapidly as possible by DWR and the Army Corps of Engineers relying to the maximum degree on DWR work already completed. The Delta community should encourage its Congressional delegation to authorize an accelerated planning response by the Corps in cooperation with DWR.

IV. A clear list of criteria for a levee rehabilitation plan should be prepared following public hearings to establish priority areas for investment of public funds as they become avail-

V. The adverse development-inducing effect of "100-year-flood" protection levees in the Rural Delta should be recognized, and the use of open space easements and other appropriate means should be considered for farming lands to be protected by such levees.

VI. Levees should be designed to provide earthquake protection commensurate with the land uses they are intended to protect.

VII. Variations in levee design, including the possibility of a back-up levee, should be developed to ensure "Natural Areas" will be preserved with minimum alteration. Increased construction and maintenance costs should be paid for by public funds.

VIII. The feasibility of building berms for erosion control in waterways of adequate width should be studied with consideration given to means of encouraging tule growth to resist wave action.

IX. A comprehensive Delta geologic study should be conducted as part of the master levee plan.

X. Selection of Bay, Valley, and Delta dredging spoil sites should be coordinated among involved agencies to facilitate stockpiling and future use for levee reconstruction and recreation, taking into consideration environmental concerns.

XI. A well-coordinated levee plan should indicate appropriate sites for public recreational access which will not cause deterioration of levee stability or of environmental values, are acceptable to the community, and can be adequately policed.

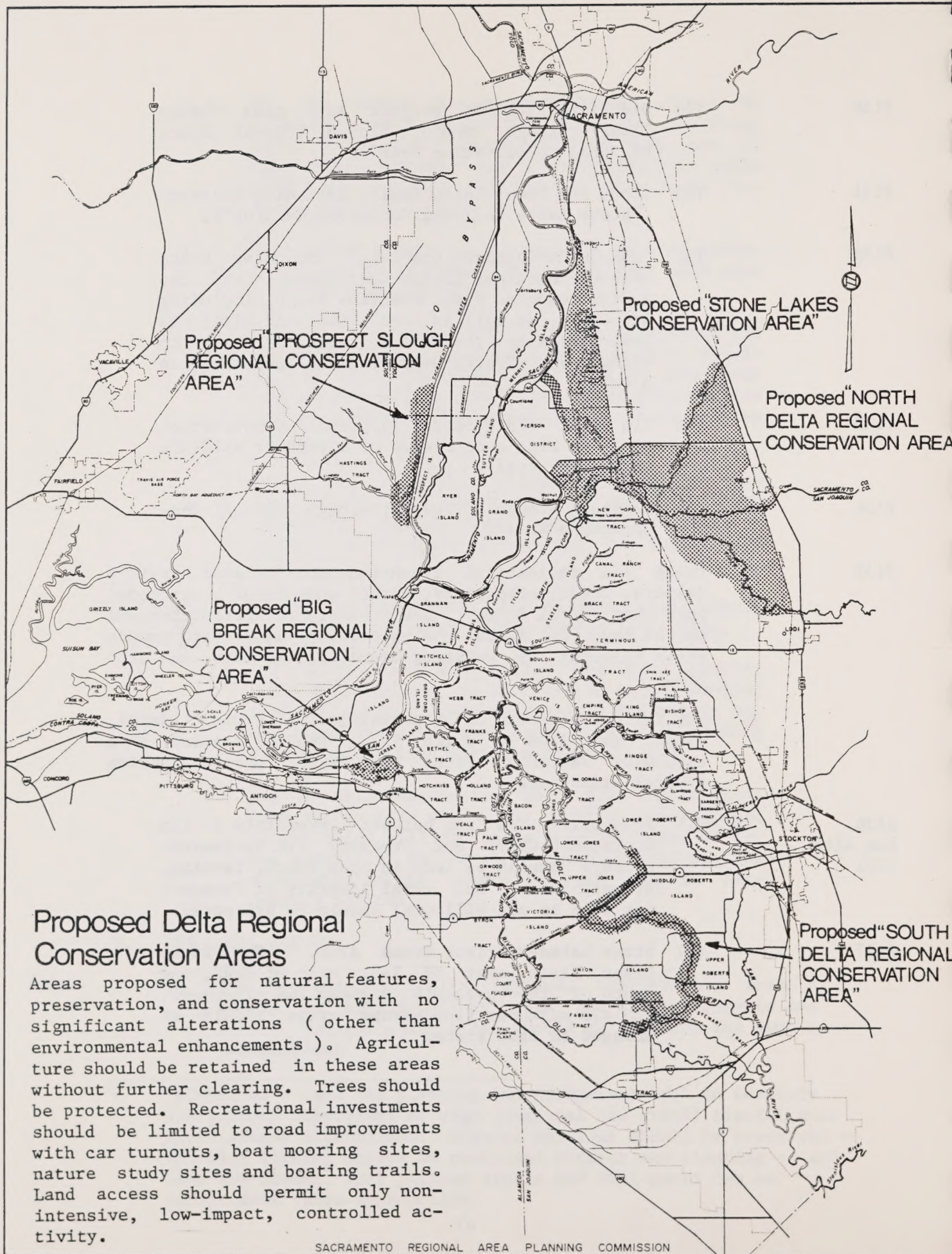
2. FOR LOCAL ACTION

#129

- a. The concept of "Delta Regional Conservation Areas"* should be considered in city and county elements and plans. The following areas should be reviewed for such a designation:

* Defined as a land use planning and management tool to identify and protect subregions of high (regional and state) significance from adverse alterations. Natural portions should be preserved -- existing farming should be continued without new clearing -- and some low-impact, well policed trails and mini-parks can be constructed where appropriate.

- #130 (1) Old River Islands project site plus Middle River through Trapper Slough ("South Delta Regional Conservation Area").
- #131 (2) Stone and Beach Lakes Basin including Freeport ("Stone Lakes Regional Conservation Area").
- #132 (3) "Mokelumne-Cosumnes Complex," including Delta Meadows-Snodgrass Slough-Lost Slough, and the entire Cosumnes River overflow basin, including Dry Creek, as well as the Mokelumne River to Lodi including the Brovelli Woods area east to Highway 99 ("North Delta Regional Conservation Area").
- #133 (4) Big Break ("Big Break Regional Conservation Area" -- also recommended as a park or wildlife management area).
- #134 (5) Prospect Slough ("Prospect Slough Regional Conservation Area").
- #135 b. Urban and residential expansion and related services (sewers, roads, electricity, water) should not be extended into the "Rural Delta" (see glossary for definition and map on page 42) except in presently authorized growth areas adjacent to existing towns, settlements, and cities.
- c. The following growth or potential growth areas (listed, except for item 14 which is a general concern, in a clockwise sequence around the Delta) should receive special attention:
- #136 (1) Freeport. The land between Interstate 5 (in
See also Sacramento City) and Freeport (in Sacramento
#131 County) should be left in open space, farming, or park land. The rural identity of Freeport (as well as all villages) should be protected.
- #137 (2) Stone Lakes-Morrison Creek Area. The Stone Lakes Basin west of I-5, east of SPRR, and south of the possible Highway 148 alignment, and all adjacent flood-prone areas should be managed as open space.



Proposed Delta Regional Conservation Areas

Areas proposed for natural features, preservation, and conservation with no significant alterations (other than environmental enhancements). Agriculture should be retained in these areas without further clearing. Trees should be protected. Recreational investments should be limited to road improvements with car turnouts, boat mooring sites, nature study sites and boating trails. Land access should permit only non-intensive, low-impact, controlled activity.

- #138 (3) Lodi-Stockton Corridor. Growth should not be allowed to link the two cities into one urban complex. The "prime" land between the cities should be protected by adequate buffers to permit continued farming.
- #139 (4) The Interstate 5 Corridor. Development pressures will occur at exchanges. Car and related services should be limited to a minimum of interchanges. Adjacent "strip development" should be strictly prohibited.
- #140 (5) Stockton-Interstate 5 Area. Westward growth of Stockton should be halted at Interstate 5 up to Bear Creek, except in authorized urban areas which should not be allowed to expand further into peat soil areas.
- #141 (6) Discovery Bay. This water-oriented community is located in Contra Costa County near the San Joaquin County line. Development will be comprised primarily of single family homes and some multiple family residential development around artificial lagoons and water channels. The community will also contain limited commercial development in its center and at its southerly edge along Highway 4. The community could grow to a population of approximately 12,000 persons. Development should be contained within the areas already authorized.
- #142 (7) Oakley-Brentwood Area. Moderate growth is expected to continue in the general area between these communities. This growth, primarily residential, should be channeled into the area presently served or which is capable of being served by public services (sewer and water), and development should proceed under the development criteria established by the new East County General Plan for Contra Costa County.
- #143 (8) Bethel Island and Hotchkiss Tract. Development of Bethel Island as the western entrance to the Delta is expected to continue. New construction, however, should be complimentary to existing uses, utilizing safe engineering practices along levees. Development practices aimed at enhancing the waterways, as well as the use of joint facilities and complementary design, should be encouraged.

- #144 (9) Pittsburg-Antioch Area. Adopted general plans indicate substantial continued urban growth in this general area. Much of this, including, industrial, commercial and residential, will be infilling of areas previously passed over and represent efficient-type growth which can readily be served by existing public services.
- #145 (10) Eastern Contra Costa, Big Break, Highway 4 Area. The edges of Big Break (a "significant natural resources area") are industrially zoned. New development in this vicinity should be sensitive to the physical characteristics of this resource area. To the greatest extent possible, eastern Contra Costa County should remain in agriculture and open space.
- #146 (11) Collingsville-Montezuma Hills. A portion may possibly be industrialized but a study, due in 1977, will determine how much is feasible. The hills are a significant scenic resource, and any development should preserve that quality by use of good design and siting with maximum mitigation measures.
- #147 (12) Sacramento Deep Water Channel-Lindsay-Cache Slough Area. Industry should remain clustered to the north in the vicinity of the port. "Strip industrialization" of the manmade channel should not occur. Residential growth from West Sacramento southward should emphasize skipped-over lands and should not be allowed to intrude upon the juncture of Jefferson Boulevard and the deep water channel.
- #148 (13) Isleton. A city flooded in 1972, Isleton should be provided "100-year" protection. In determining the most appropriate system, consideration should be given to cost-benefits, amount of area to be protected, loss of agricultural lands, and pressures for urban expansion.
- #149 (14) Agriculture Related Industry. Because of can-
nery needs for isolation and large areas for waste disposal, these industries will seek the outer portions of the Rural Delta near intersecting railroad lines and roads. A high degree

of care should be taken in the location of these uses to mitigate adverse impacts on water quality, agricultural production, traffic patterns, and nearby lands identified for recreation or preservation.

- #150 d. The character of Delta rural towns and settlements (many are recognized as "regional cultural resources") should be protected by all possible means, such as zoning, design review procedures, use permits, community plans, specific plans (see Government Code Section 65450), and planned unit developments. Methods of reviewing building permits for cultural and aesthetic values should be considered. Examples of such towns are: Freeport, Courtland, Walnut Grove, Locke, and Ryde (Sacramento County); Clarksburg (Yolo County); Woodbridge and Thornton (San Joaquin County); Collingsville (Solano County); and Byron (Contra Costa County).
- #151 e. The types of uses in the Rural Delta to be subject to special review should be identified. Standards for review should be developed, using the Delta Action Plan and the Delta Waterways Use Program as a guide, with emphasis on ensuring compatibility with the surrounding setting.
- #152 f. The Delta Action Plan should be adopted or endorsed and used as guidelines in all Delta related decisions.
- #153 g. A Delta advisory planning organization should coordinate multi-agency programs, amend the Delta Plan as necessary, and implement its recommendations as feasible.

3. FOR STATE OR FEDERAL ACTION

- #154 a. The 1976 State Delta Master Recreation Plan should continue to be well coordinated with the DAPC plan and be consistently and uniformly applied and implemented by all state agencies as the state policy for the Delta. (Res. Ag., Governor)
- #155 b. Land use proposals by special districts or resulting from their improvements should conform to the local government zoning, review, and permit process. State and federal agencies should not approve special district projects until all local permits have been issued. This land use regulatory authority of cities and counties should be clarified and, if it is inadequate, corrective legislation should be enacted. (AG, OPR, Leg.)

- #156 c. The appropriate city or county should first issue all required permits on a proposed project before federal and state agencies act on the proposal. (All permit agencies)
- #157 d. Agencies conducting studies in the Delta should develop methods of allocating cost sharing for beneficiaries. (All agencies)
- #158 e. Waterways and adjacent areas of woody riparian vegetation identified by the Delta Waterways Use Program as "Natural Areas" or as "significant" in other appropriate plans should receive legislative and administrative protection, with fiscal incentives and subsidies offered by the state to assist landowners in meeting additional costs. (Leg., Res. Ag.)



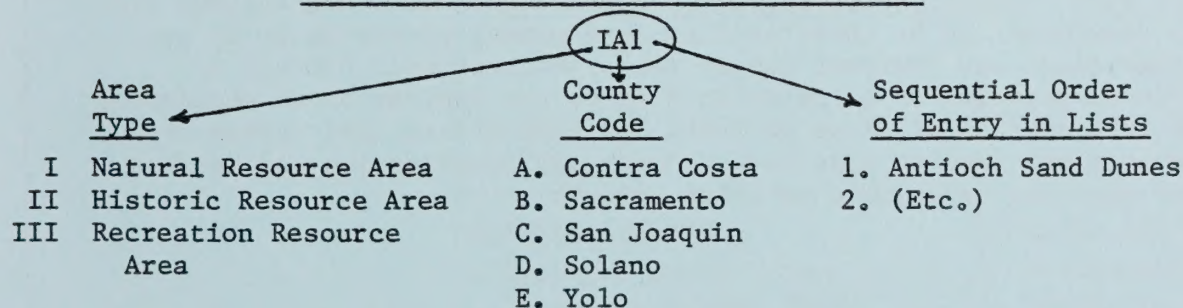
APPENDIX A

INVENTORY OF SIGNIFICANT DELTA RESOURCE AREAS

CLASSIFICATION OF RESOURCE AREAS

- I. Significant Natural Resource Areas - Areas having important open space, ecological, scientific, educational, or wildlife values such that they should be set aside for preservation. Includes treelined levees and berms; undeveloped and unleveed channel islands (also known as tidal marsh islands); oak groves; marshes; areas essential to the survival or continuation of endangered or rare species of flora or fauna, and waterfowl.
- II. Significant Historic Resource Areas - Sites of important historic, archeological, or cultural values. Includes remnants of the river-boat and Gold Rush eras; interesting ferries and bridges; and the Delta river towns and other villages where pre-WW II construction, scenic, rural, historic, and/or cultural values remain (such towns are "regional cultural resource areas").
- III. Significant Recreational Resource Areas - Areas and corridors that offer important recreational opportunities, including scenic appreciation and touring. May or may not be in a management program. Includes beaches; boat mooring sites which are out of prevailing winds and channel traffic; river roads; and rural roads through farmlands or along waterways.
- IV. Significant Resource Production Areas* - Areas which are capable of sustained economic production of food and fiber; energy sources; and ground water recharge areas. Not shown on base map due to size.
- V. Significant Natural Hazard Areas* - Areas jeopardized by: "100-year floods" or "100-year storm" runoff; earthquake faults (with a 1/4th mile zone on each side); soil subsidence; soil liquefaction; and fire. Includes all peat areas of any depth, due to the present inadequate understanding of geologic origins and sub-strata. Not shown on base map due to size. See maps in technical supplement and Action Plan.

IDENTIFICATION CODE FOR DELTA PLAN MAP



* Because most or all of the Delta contains a variety of broad significant resource production areas and natural hazard areas, this inventory does not attempt to itemize such areas by counties. Further definition must be done locally.

THE WORKINGS OF A "SIGNIFICANT RESOURCE AREA CLASSIFICATION SYSTEM"

First Step - DEFINITION of a "resource area classification system", a framework for organizing lists of significant natural, historic, recreational and resource production areas, as well as natural hazard areas; plus development of qualifying criteria and definitions.

Second Step - FIELD INVENTORY of areas which meet the established definitions, plus accumulation of key ecological data and ownership information (details can be added incrementally).

Third Step - CONSOLIDATION AND CODING of all areas, after completion of major field work, into one master list, which has a numerical and/or letter code to permit cross-reference between maps and the plan's text. Should be organized to permit additions in the future.

Fourth Step - ADOPTION OF PLAN POLICIES which urge preservation of these identified areas, and/or passage of laws to increase protection.

Fifth Step - IMPLEMENTATION OF PROTECTION MEASURES

A. FEASIBLE

1. Zoning in a conservation district (does not ensure preservation).
2. Williamson Act contract with willing owner (offers temporary protection only).
3. Open space easement with willing owner.
4. Condemnation and payment in fee (possibly with lease-back).

B. POSSIBLE

1. Condemnation of development rights; execution of mandatory open space easement; and payment for the partial taking.
2. Land banking.
3. Exercise of police power (protection of public health and safety) to prohibit any alterations in identified areas. Would require legislative definition of procedures.

Sixth Step - REACTION TO "CRITICAL" SITUATIONS. If a significant area is determined to be threatened by development proposals or by any other clear and imminent danger (e.g., recreational overuse or natural hazards) or is determined to be the habitat of an endangered or rare species of flora or fauna, an appropriate lead agency could declare the area to also have a "critical" designation and require key agencies to respond as a top priority.

EVOLUTION OF SIGNIFICANT RESOURCE AREA CLASSIFICATION SYSTEMS

AB2070 (1970)	OFFICE OF PLANNING AND RESEARCH (<u>Environmental Goals and Policy, 1973</u>)	DELTA ADVISORY PLANNING COUNCIL (<u>Delta Action Plan, 1976</u>)
1. Areas of outstanding scientific, scenic, and recreation value. 2. Areas which are required for fish and wildlife habitat. 3. Forest and agricultural land of major importance. 4. Areas which provide green space and open areas in and around high-density metropolitan development. 5. Areas for access to beaches, lakeshores, and riverbanks. 6. Areas which require special development regulation because of hazardous or special conditions. 7. Areas which serve as connecting links between major public recreation and open spaces sites, such as utility easements, streambeds, trails, and scenic highway corridors. 8. Areas of major historic or cultural interest.	<u>Scenic, Scientific, Educational and Recreational Resource Areas</u>	<u>Natural Resource Areas</u> (potential reserve or preserve areas, having important ecological, scientific, or educational values).
	. Park, Reserve & Wilderness Areas	
	. Wildlife Habitat	
	. Open Space Surrounding Metropolitan Areas	
	. Recreation, Access & Connecting Links	<u>Recreation Areas and Corridors</u> (potential parks; access trails; scenic routes and touring corridors; and scenic vistas or view overlooks).
	. Historic, Archaeological and Cultural Areas	<u>Historic Areas</u> (including cultural and archaeological areas)
	<u>Resource Production Areas</u>	<u>Resource Production Areas</u>
	. Forest Lands	. Forest (but not applicable to Delta)
	. Agricultural	. Agricultural ("prime lands" and those capable of sustained economic yield).
	. Mineral Areas	. Mineral (e.g., gas, oil, gravel, etc.)
	. Water Sources	. Water Source (includes ground water recharge areas)
	. Energy Sources	. Energy Source
	<u>Hazardous Areas</u>	<u>Natural Hazard Areas</u>
	. Geologic Hazard Areas (Seismic, Slides, Soil)	. Earthquake (e.g. fault zones and liquifaction areas)
		. Soil (e.g., subsidence)
	. Fire Hazard Areas	. Fire (e.g., grasslands)
	. Flood Prone Areas	. Flood Prone (100-year flood or storm)
	. Critical Air Areas	. Critical Air

INVENTORY OF SIGNIFICANT DELTA NATURAL RESOURCE AREAS

I. SIGNIFICANT NATURAL RESOURCE AREAS		A. COUNTY OF CONTRA COSTA	
Map #	Name of Area, Location	Type of Area	Comment
IA1	Antioch Sand Dunes, San Joaquin River.	Last Delta sand dunes.	Habitat California legless lizard.
IA2	Antioch Sand Dunes and Quarry Canyon, San Joaquin River (one mile east of A1).	Last Delta sand dunes.	Habitat of California legless lizard. Behind dunes is a scenic re-vegetated quarry with high value as park (except for occasional industrial emissions in area).
IA3	Antioch-Pittsburg marsh.	Large marsh.	Open space between industry.
IA4	Big Break. East county near Bethel Island.	Emerging marsh.	Tract flooded in 1930's.
IA5	Browns Island, off Pittsburg.	Uplands habitat.	Blue heron rookery.
IA6	Eucalyptus Island, north of Clifton Court Forebay.	Uplands habitat.	Flooded island.
IA7	Little Frank's Tract, west of Frank's Tract.	Uplands habitat.	Portion of the state-owned flooded island.
IA8	Quimby Island, southeast of Frank's Tract.	Uplands habitat.	Some marsh. Large white tail kite population.
IA9	Rhode Island, south of Quimby Island.	Marsh.	Flooded island. Excellent wildlife habitat.
IA10	Mt. Diablo, in eastern Contra Costa County.	Volcanic formation.	Outside DAPC area but is a Delta visual landmark. Partially a state park.
IA11	Unnamed tidal channel islands in False River (north of Frank's Tract).	All channel islands are designated "significant"	but these are especially important. Most levees are without vegetation in this waterway. See also item IF2.
IA12	Coulter Pines, Black Diamond Way (Coal Mines Area)	The northern most limit of this pine	which is characterized by large cones.

I. SIGNIFICANT NATURAL
RESOURCE AREAS

B. COUNTY OF SACRAMENTO

Map #	Name of Area, Location	Type of Area	Comment
IB1	Beach Lake, south of Freeport, north of Stone Lakes.	Marsh. Riparian and uplands habitat. Oaks. Well managed private preserve.	
IB2	Stone Lakes Basin, west of I-5, south of Beach Lake and Freeport.	Lakes. Marsh. Riparian and uplands habitat. Oaks. Most important ecological area in Delta. To be acquired by State-County for low intensity recreation and for preservation.	
IB3	Cosumnes River, Badger Slough. On eastern edge of Delta, Highway 99.	Marsh. Riparian habitat. Listed by California Natural Areas Coordinating Council.	
IB4	Cliff House Beach, on river road, across from Rio Vista.	Scenic. Woody vegetation. Largest Delta beach.	
IB5	Lower Sherman Island.	DFG wildlife management area. Marsh. Some uplands habitat. Fish spawning area.	
IB6	Seven Mile Slough, between Brannan and Twitchell Islands.	Closed off slough. Well vegetated with good wildlife habitat.	
IF3	"Mokelumne-Cosumnes Complex."	Large interrelated area shared with San Joaquin County. See "I.F. Multi-Jurisdiction Areas".	

I. SIGNIFICANT NATURAL
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN

Map #	Name of Area, Location	Type of Area	Comment
IC1	Unnamed Channel Tidal Islands.	All undeveloped channel islands are designated "significant" but these are especially important. Most levees are without vegetation in these waterways. Many of these islands are authorized for state acquisition. Some degree of private ownership occurs with these lands, but they are also affected by the Doctrine of the Public Trust (see Appendix B). See also item IF2.	
1a	In Disappointment Slough between Honker and Bishop Cuts.		
1b	In Latham Slough from Columbia Cut to Empire Cut.		
1c	In Potato and Little Potato Slough.		
IC2	Hog Slough, eastern end.	Intermittent marsh. Important sand hill crane roosting area.	
IC3	Unnamed Island, south fork of Mokelumne River, south of mouth of Sycamore Slough.	Uplands habitat.	
IC4	White Slough, upper end, and the Upland Channel marshes.	Channel islands. Marsh. Riparian habitat. Very scenic.	
IC5	Oak Grove County Park, on 8 mile road, next to I-5	Uplands habitat. Important oak grove.	
IC6	Caswell Memorial State Park, on Stanislaus River, southern edge of Delta.	Riparian forest (138 acres of valley oaks). Listed by California Natural Areas Coordinating Council. Blue heron rookery.	
IC7	South County Park, on San Joaquin River, north of Caswell Park.	Riparian forest. Similar to Caswell area.	

I. SIGNIFICANT NATURAL
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN
(continued)

Map #	Name of Area, Location	Type of Area	Comment
IC8	French Camp Slough, south of Stockton.	Good to excellent riparian vegetation on levees and islands.	
IC9	Paradise Slough, west of San Joaquin River and mostly parallel.	Good to excellent riparian vegetation, but stripping has begun.	
IC10	Old River islands and riparian forest area.	Upland island. Excellent riparian vegetation. Oaks. Very scenic. Authorized state park since 1964 but was dropped, 1976.	
IC11	Middle River, upper. (River runs south to north). North of Old River islands area.	Riparian forests. Scenic. Invaluable well-vegetated ecological area.	
IC12	Trapper Slough.	Marsh. Large bird population. Closed-off slough. Listed by California Natural Areas Coordinating Council.	
IC13	Stockton Deep Water Channel Islands (especially Spud and Hog Islands).	Upland habitat. Oaks. Scenic. Some marsh. Beaver lodges on berm.	
IC14	Unnamed island in Old River, near Bethany.	Upland habitat.	
IC15	Circle Lake, on San Joaquin River, south of Stockton.	Fish spawning area. Excavated area, now an "oxbow" lake on river's meander.	
IC16	Mandeville Tip Marsh in Deep Water Channel.	Marsh lies within the levees of this flooded tract.	
IC17	Tinsley Island Marsh, in Deep Water Channel.	Part of island is developed (St. Francis Yacht Club). Marsh on north east half of island.	

I. SIGNIFICANT NATURAL
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN
(continued)

Map #	Name of Area, Location	Type of Area	Comment
IC18	Byron Alkali Vernal Pools, south of Clifton Court Forebay, in both San Joaquin and Alameda Counties.	250 acres. Vernal pools are hardpan areas which collect winter rain and support unique vegetation. These pools are somewhat alkaline and support a flora differing from typical vernal pools found elsewhere in the Central Valley. Many of the normal vernal pool species; but not all, are excluded by the alkalinity. Though grazed sheep, the area is still relatively intact. A railroad borders one side. Some surrounding fields have been converted to a salt-tolerant barley. Listed by California Natural Areas Coordinating Council.	
IF3	"Mokelumne-Consumnes Complex"	See I.F., "Multi-Jurisdiction Areas".	

I. SIGNIFICANT NATURAL
RESOURCE AREAS

D. COUNTY OF SOLANO

Map #	Name of Area, Location	Type of Area	Comment
ID1	Miner Slough Marsh, at juncture of Miner Slough and Sacramento Deep Water Channel.	Emerging marsh in a flooded area. DFG owns 36.5 acres, only a portion of the total.	
ID2	Prospect Slough Marsh. Juncture of Prospect Slough and Sacramento Deep Water Channel.	Emerging marsh. Flooded area.	
ID3	Prospect Slough, west of Sacramento Deep Water Channel, in Yolo Bypass.	Uplands islands habitat. Scenic. Riparian habitat. May be the most impressive open space waterway vista in Delta. No intrusions now visible.	

II. SIGNIFICANT NATURAL RESOURCE AREAS		D. COUNTY OF SOLANO (cont.)	
Map #	Name of Area, Location	Type of Area	Comment
ID4	Sacramento River Bluffs (Montezuma Hills), between Rio Vista and Collinsville.	Scenic. Native vegetation. Unusual Delta geology. Only such formation along Sacramento River.	
ID5	Lindsay-Hass-Barker Sloughs.	Channel tidal islands. Much of levees have riparian vegetation.	
ID6	Lindsay Slough Marsh, adjacent to slough, south side.	Much has been landfilled for farming, but some remains.	
ID7	French Island, mouth of Cache and Shag Slough.	Upland island but sometimes flooded in highest water. Riparian vegetation Variety of wildlife species.	
I. SIGNIFICANT NATURAL RESOURCE AREAS		E. COUNTY OF YOLO	
Map #	Name of Area, Location	Type of Area	Comment
IE1	Elk Slough, parallel to Sacramento River.	Riparian habitat. Scenic. Full of fallen trees. Good aquatic habitat. Deadends at Sacramento River, near Clarksburg.	
IE2	Duck Slough, parallel with Elk Slough.	Small stream, has good riparian vegetation.	
IE3	Winchester Lake and adjacent Babel Slough.	Riparian vegetation.	
IE4	Putah Creek, empties into Yolo Bypass.	Riparian vegetation. Only a small portion in Delta area.	
IE5	Sacramento River Berms, Broderick-West Sacramento.	Riparian vegetation. Oaks.	

I. SIGNIFICANT NATURAL RESOURCE AREAS		F. MULTI-JURISDICTIONAL AREAS	
Map #	Name of Area, Location	Type of Area	Comment
IF1	Nutrient Trap - Salt Wedge, in Western Delta Rivers, including area to south-west of Twitchell Island to Carquinez Strait at Martinez.	Area of salt water tidal "wedge" where heavier salt water surges below fresh water outflow. Nutrients accumulate here to make the area a benthic and plancton production area, and major nursing area for stripped bass and salmon. (Shared by Solano, Contra Costa & Sacramento Co.)	
IF2	Unnamed tidal channel islands in Holland Cut, west of Quimby Island from SandMound Slough south to Connection Slough, and in Old River from Rhode Island to southern edge of Bacon Island.	All unleveed channel tidal islands are designated "significant" but these are especially important. Most levees are without vegetation in this area. (Shared by Contra Costa and San Joaquin Counties.)	
IF3	"Mokelumne - Cosumnes Complex."	One of top Central Valley ecological sub-regions. (Shared by San Joaquin and Sacramento counties.)	
3a	Delta Meadows upland and marsh.	Oaks on higher ground. Marshes. (Sacramento)	
3b	Small wilderness area. Blue Heron Rookery, Wood Duck habitat.	Generalized area. Mapping is not precise. (Sacramento)	
3c	Lost Slough.	Well vegetated. Impressive aquatic vista. (Sacramento)	
3d	Lost Slough marsh, lower arms.	Good marsh between two arms of lost slough. One deadend channel almost reaches Mokelumne River. Other arm feeds marshy interface between Cosumnes River side-channels at Franklin Road. Thick forest area. May have fresh water springs. (Sacramento)	

I. SIGNIFICANT NATURAL
RESOURCE AREAS

F. MULTI-JURISDICTIONAL AREAS
(continued)

Map #	Name of Area, Location	Type of Area	Comment
3e	Cosumnes River side channels.	Abutting deadend channels leading northward from Cosumnes. Well vegetated. Land adjacent to Franklin Road also has good upland habitat. (Sacramento)	
3f	Cosumnes River and the overflow basin.	A broad forest and stream area adjacent to the Cosumnes. Not well mapped. Excellent habitat and wildlife variety. Invaluable area. (Sacramento)	
3g	Dry Creek	Part of County boundary, running between Cosumnes and Mokelumne Rivers. Good tree line. Creek is intermittent. (Sacramento-San Joaquin)	
3h	Brovelli Woods (also known as Forest Lake) between Dry Creek and Mokelumne River.	Excellent oak grove with small streams and marshy areas. (San Joaquin)	
3i	Mokelumne River	Excellent, well vegetated river. One of the best in region. Also supports recreational use. (Sacramento-San Joaquin)	
3j	Lodi Lake and dam area.	Partly a park, area retains natural values. (Lodi)	

INVENTORY OF SIGNIFICANT DELTA HISTORIC RESOURCE AREAS

II. SIGNIFICANT HISTORIC RESOURCE AREAS*			
A. COUNTY OF CONTRA COSTA			
Map #	Name of Area, Location	Type of Area	Comment
	ANTIOCH AREA:		
IIA1	Antioch Lumber Company, 2nd & E Streets	Founded in 1864, thought to be the oldest lumber concern in California still in the business.	
IIA2	R.B. Hard Bldg. 815 First St.	Built in the Mid-1860's by R. B. Hard	
IIA3	Donlon Home, 606 West 3rd St.	Built in late 1870's. Birthplace of former mayor of Antioch.	
IIA4	Antioch Pioneers Landing Site East of "F" Street at Water-front	Monument denotes landing site of the pioneers that landed with Captain George W. Kimball on September 16, 1850.	
IIA5	First Congregational Church, West 6th and F Streets	Original church was dedicated May 16, 1869. The present structure, erected in 1891, is the oldest church building in Antioch.	
IIA6	Willis Ranch House, 319 W. 7th Street	Home build in 1871,	
IIA7	Empire Railroad Site Monument and Section of Tracks East of F Street at riverfront.	Monument erected to denote the site of narrow gauge railroad tracks of the Empire Railroad and the coal mining industry of 1877 to 1902. Coal was transported from mines to the coal wharf at Antioch by this railroad.	
IIA8	Charles Marsh House, 601 West Fourth Street	Home of son of pioneer John Marsh. Built in 1887.	
IIA9	Joslin Home, 502 West 2nd St.	Noted as an early business in Antioch.	
IIA10	Odd Fellows Hall, W. Third and H Streets	Structure first known as Union Hall and was also the City Bakery. Later Odd Fellows Lodge.	
IIA11	Atchison-Topeka and Santa Fe Depot, 816 West First Street	San Francisco and San Joaquin Valley Railroad, now known as the Atchison-Topeka and Santa Fe, had its eastern terminal in Antioch for many years. Depot was built about 1902.	
IIA12	McKellips House, 604 West Sixth Street.	Built in 1886 as home of engineer in charge of rolling stock for Empire Railroad.	
IIA13	Antioch City Hall, West Third and H Streets	Built in 1919 as City Hall and Jail	
IIA14	Brown House, 219 W. 6th Street	Built about 1890. Home of civic leaders.	

*Some areas have more local than regional significance but are listed as submitted by the counties.

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

A. COUNTY OF CONTRA COSTA
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
IIA15	Remfree House, 512 E Street	Built about 1870.	
IIA16	Beede House, 119 Beede Way	Built about 1895, known as "Country Home".	
IIA17	Cox House, 119 W. Sixth Street	A two story wood frame structure with high gable composition shingle roof, and combination of patterned wood shingle, board and batten and composition shingle siding.	
IIA18	Stamm House, 501 B Street	Structure reflects the architectural style circa 1910.	
IIA19	Casino Theater, West First and H Streets	Circa 1870's this site was the warehouse of one of the oldest mercantile firms in Antioch, torn down for the Casino Theater circa 1910.	
IIA20	Antioch Grammar School, West Fifth and G Streets	Brick school of 1880. Was replaced by a wooden building in 1890.	
IIA21	Mulhare House, West Second and I Streets	Catholic services were first held in 1864 at this homesite.	
IIA22	Kimball Home, West Third Near E Street	Built in the Fall of 1850.	
IIA23	Smith's Landing, Fulton Shipyard Road	Site of W. W. Smith's home, founder of Antioch. First wharf built in Antioch was located here.	
IIA24	Harkinson House, West Fourth and D Streets	A one story wood frame structure, circa 1890.	
IIA25	George House, 223 W. 6th St.	Site of pioneer's home.	
IIA26	Baker Hardware and Paint Store West 2nd and G Streets	Early general hardware store circa 1880.	
IIA27	Pioneer Hospital, West 5th and H Streets.	Opened in 1930.	
IIA28	Riverview Union High School, West 4th Street & Somersville Road	Two story brick building with quoin wall design, flat roof with parapet and decorated window detail.	
IIA29	Belshaw House, W. 7th & E St.	Home of State Senator, 1900	
IIA30	Marsh Landing, Pacific Gas and Electric Company	Site of John Marsh's ranch and shipping center with a blacksmith shop, warehouse smokehouse and landing area.	

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

A. COUNTY OF CONTRA COSTA
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
	PITTSBURG AREA		
IIA31	Camp Stoneman, Railroad Avenue	Site of Camp Stoneman, built in 1942 as an embarkation area for World War II and Korean War troops.	
IIA32	Early California Railroad, Pittsburg-Antioch Highway	Pittsburg and Black Diamond mines used standard gauge railroad track three years before the "Golden Spike" was driven at Promontory Point, Utah.	
IIA33	Rose Hill Cemetery, Somersville Mines Area Regional Park	Ninety-two memorial headstones, inscribed in the Gaelic language of the ancient Celt mark graves of Welsh miners	
IIA34	Mine Shafts Nortonville/ Somersville, Coal Mines Regional Park	Coal (The "Black Diamond") was discovered in foothills in 1850. Noah Norton built the first home in the area in 1861--later known as Nortonville. Mining families were mostly from England and Wales.	
IIA35	Southern Pacific Railroad Depot, 1291 Railroad Avenue	An early railroad facility that added to the industrial development of Pittsburg, circa 1878.	
IIA36	Santa Fe Railroad Depot, Black Diamond Street	Circa 1900.	
IIA37	Sacramento-Northern Railroad Depot	California's first electric line, inaugurated 1909, provided transportation between the Bay area and Central Valley communities.	
IIA38	Theater Sites, York Street	Site of the Black Diamond Theater built in 1909 and the Palace Theater built in 1910.	
IIA39	Vincent A. Davis Library	Library built in 1930 housed over firehouse.	
IIA40	Fages-Crespie Turnback Camp Buchanan Park, Buchanan Road	Site of encampment of Fages-Crespie Expedition of 1772, a final attempt to establish an inland route to reach Point Reyes.	
IIA41	Oak Springs Community, Buchanan Road	Frontiersman headquartered here and established the community.	
IIA42	Pittsburg Historical District, Foot of Railroad Avenue at Waterfront. Includes:	Site of historic events and persons relating to fishing, shipping, the railroads, and the founders of Pittsburg. Was the Rancho Los Medanos, a land grant awarded by Governor Don Bautista	

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

A. COUNTY OF CONTRA COSTA
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
IIA42	Continued		
42a	First Post Office, 1849		
42b	Site of Booth Salmon Cannery and fishing center		
42c	Site of first steamboat stop between San Francisco and Sacramento. Coaling station.		
42d	Cornwall Mansion, 1861		
42e	Cornwall station, 1878		
42f	Steel mill built in 1911		
IIA43	Congregational Church, West 4th and Montezuma Streets		Built in Nortonville for the mining community in 1882, moved to Pittsburg in 1894, still in use.
IIA44	Latimer Ranch, Nortonville Road		Home built in 1850.
IIA45	Los Medanos Hotel		U-shaped two story stucco structure with decorated wood columns, balconies, Built in 1917.
IIA46	Black Diamond District Old Grammar School, West 8th and Black Diamond Streets		Built in 1914.
IIA47	Pittsburg Seventh Day Adventist Church, East 9th and Los Medanos Streets		Dedicated September 28, 1919. Unique example of turn of the century architecture.
IIA48	California Theater, Railroad and Central Avenues		Provided vaudeville and film entertainment since silent era. Red and black tile and traditional theater marquee. Built circa 1925.
IIA49	Military Chapel, Stoneman Park Harbor St. and Leland Road.		Two military chapels, built in 1942, at Camp Stoneman display the traditional World War II military architecture.
IIA50	St. Peter Martyr Church, West 8th & Black Diamond Streets		Built in 1925.
IIA51	Dow Chemical Company, Loveridge Road		Production began July 1, 1916, as the Great Western Electro-Chemical Company. Now the largest chemical production complex in the Western United States.
IIA52	John Manville Corporation, East 3rd and Harbor Streets		Broke ground in 1923 and began production in 1926.

II. SIGNIFICANT HISTORIC RESOURCE AREAS

A. COUNTY OF CONTRA COSTA (cont.)

Map #	Name of Area, Location	Type of Area	Comment
	EAST COUNTY AREA:		
IIA53	Babbe's Landing, Foot of Seller, Road on Dutch Slough, East of Oakley.	Early boat landing for horse and hay transport to San Francisco.	
IIA54	Empire Basin Area, Empire Mine Road	Sites of Judsonville, Empire Mine, Stewartsville and Star Mine.	
IIA55	Iron Horse School, Cypress Road and Sellers Avenue.	Early school house, built in 1850's. Now a residence.	
IIA56	McCabe House, Byron Highway, at end of Brentwood Road, East of Breentwood	Home of early pioneers circa 1860. Much decorated Victorian style structure.	
IIA57	Murphy Home and Wallace Home at 800 and 828 Railroad Ave., Brentwood	Homes of early residents, Victorian style. Built around 1909.	
IIA58	Coats Hall, Highway 4, near Oak Street, Brentwood	One of the oldest buildings in Brentwood.	
IIA59	Judge Wallace Chambers, 300 Oak Street	One of the oldest buildings in town.	
IIA60	Liberty Grammar School, Deer Valley and Mrsh Creek Roads.	Site of early school in foothills.	
IIA61	John Marsh Home, on Marsh Creek Road, 2½ miles south-west of Brentwood	Mansion known as the "Stone House" was begun in 1852, completed in 1856, a 3 story Victoria Gothic and Italian villa. However, it was never lived in by the Marshes.	
IIA62	Town of Byron	Founded in late 1800's. A "Regional Cultural Resource Area."	
62a	Parish House of Methodist Church	Circuit rider house built in 1850's.	
62b	Jewett House, 600 1st St.		
62c	IOOF Hall	Built in 1870. Was social center through early 1900. Still used.	
IIA63	Fry House, and Byer House, Byer Lane, Northeast of Byron		
IIA64	Preston House, Byron Highway near Marsh Creek Road.	Built in 1870, Victorian style.	
IIA65	Byron Grange Hall, Southwest Corner Marsh Creek Road and Highway 4, North of Byron	Built in 1873, it housed the Grange at the Town of Point of Timber. The town folded in 1878 and the building was moved to Byron.	

II. SIGNIFICANT HISTORIC RESOURCE AREAS		A. COUNTY OF CONTRA COSTA (cont.)	
Map #	Name of Area, Location	Type of Area	Comment
IIA66	Geddes House, Marsh Creek Road, West of Highway 4	Built in 1870, a two story Victorian structure.	
IIA67	Point of Timber Landing, Indian Slough, off Old River Road, Northeast of Byron	Site of warehouse, lumber yard, shipping point for grain harvested in vicinity.	
IIA68	Point of Timber Trading Center, East of Union Cemetary at Point of Timber Road and Highway 4, North of Byron.	Site of Wolf and Kahn Store, Lehman and Davis Blacksmith Shop, and post office 1869 to 1882.	
IIA69	Byron Hot Springs Hotel, Hot Springs Road, near County Road J4, South of Byron	Health spa in late 1880's and early 1900's. Mud baths, deteriorating hotel, 100 year old Victorian manager's house and cottages are still there. Hot springs are still active. Japanese prisoner camp during World War II. Also was a Balbones Indian campsite.	
IIA70	Vasco Caves, South of Byron Hot Springs Road	Hideout of Joaquin Murietta, infamous bandit.	
II. SIGNIFICANT HISTORIC RESOURCE AREAS		B. COUNTY OF SACRAMENTO	
Map #	Name of Area, Location	Type of Area	Comment
IIB1	Joe Mound, Nisipowinan Village and Archeological Site, Discovery Park.	Indian burial ground, used as early as 1000 B.C. Adjacent to DAPC area.	
IIB2	Old Sacramento, on Sacramento River, north of Tower Bridge. Includes:	Staging Area for Gold Rush of 1848. Partially a State Park. Rest being redeveloped. Most important historic area on West Coast.	
2.a	Adams & Co. Building.		
2.b	Big Four Headquarters.	Reconstructed at new site.	

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

B. COUNTY OF SACRAMENTO
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
2.c	Camelia Fair (New England Seed Store).		
2.d	City Hotel.		
2.e	D. O. Mills Bank.	Reconstructed at new site.	
2.f	Eagle Theater.	Reconstructed.	
2.g	Ebner's Hotel.		
2.h	Lady Adams Building.		
2.i	Newton Booth Home and Store	Mark Twain is said to have lived there when working for the Union.	
2.j	Orleans Hotel (site of).		
2.k	Pioneer Bookstore.		
2.l	Pioneer Mutual Volunteer Firehouse.		
2.m	Pioneer Telegraph Station.		
2.n	Pony Express Terminal (B. F. Hastings Building).	Original building is restored.	
2.o	Sacramento Bee Building.		
2.p	Overton Building		
2.q	China Slough	Site.	
IIB3	Sutters Fort, east Sacramento City.	Outside DAPC area but pertinent.	
IIB4	Sacramento City Cemetery, on Broadway Avenue	Burial site of many famous pioneers. Including John Sutter, Jr.	
IIB5	Sutterville, on Sacramento River.	Site of first settlement on the river. Built 1846.	
IIB6	Camp Union, near Sutterville	Site of Union soldier training area, 1861.	
IIB7	Town of Freeport.	Founded in 1850 to avoid city taxes. "Regional Cultural Resources Area."	

II.SIGNIFICANT HISTORIC
RESOURCE AREAS

B. COUNTY OF SACRAMENTO
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
7.a	A. J. Bumps.	Restored General Store From 1863.	Road overhang should be restored.
IIB8	Beach Family Home, south of Freeport on River Road.	Victorian building.	May be the oldest home in County.
IIB9	Eddinger House on River Road near Hood.	Victorian building.	Built by designer of Governor's Mansion.
IIB10	Delta Meadows Archeological Site, near Locke.	Site of Indian Village.	To be part of State Park.
IIB11	River Mansion, Steamboat Slough.	Elegant Mansion built in 1918.	
IIB12	Steamboat Slough "Dolphin."	Site of device to enable steamboats to turn.	First state investment to aid navigation.
IIB13	Town of Courtland, Sacramento River.	Founded in 1870.	"Regional Cultural Resources Area."
13.a	Wo Chong General Store.	Old building of great charm.	Chinese owned and operated.
IIB14	Town of Walnut Grove.	Founded in 1851.	"Regional Cultural Resource Area."
14.a	Bank of Alex Brown.	Original building, built in 1913.	Interesting design. Has unique old vault.
14.b	Walnut Grove Bridge.		
14.c	Lower Level Wooden Stores	Scenic.	Fire threatened.
IIB15	Ryde Hotel.	Built in 1890's.	Replaced in 1926. Retains 1920's atmosphere.
IIB16	Town of Locke, Sacramento River.	The most unique and important Delta historic area.	Built in 1915. Only Chinese built town in U.S. still standing. "Historic Area of Statewide Significance and Critical Concern," as well as being a "Regional Cultural Resource Area." Fire threatened.
16.a	Star Theater.	Archway to old theater.	
16.b	Southern Pacific Warehouse on Locke Waterfront.	One of the last remaining river era warehouses.	Looks decrepit, but has been tested as sound.
IIB17	Town of Isleton, Sacramento River. Includes:	Founded in 1874.	Old portion and downtown is a "Regional Cultural Resource Area."

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

B. COUNTY OF SACRAMENTO
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
17.a	Old Fellows Hall		
17.b	Chinese School		
17.c	Buddhist Church		
IIB18	Town of Paintersville, Sacramento River.	Site. Home of the "Fence Post Bank." Has potential for reconstruction and interpretation.	

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN

Map #	Name of Area, Location	Type of Area	Comment
IIC1	Town of Thornton.	Established 1855. "Regional Cultural Resource Area" but largely in rundown condition.	
IIC2	Port of Mokelumne City.	Site of deep water port built in 1850. Destroyed by flood in 1862.	
IIC3	Town of Woodbridge.	Established in 1859. "Regional Cultural Resource Area."	
3.a	San Joaquin Valley College.	Site. Built 1879. Dismantled 1927.	
3.b	Indian Burial Site and Pioneer Cemetery.		
3.c	General Store.		
3.d	I.O.O.F. Building.		
3.e	Masonic Hall.	Built 1882.	
3.f	Wells Fargo Office Building.	Built 1865.	
3.g	Wood's Ferry and Wood's Bridge.	Sites of 1852 ferry and 1858 bridge.	
IIC4	Site of Hudson Bay Fur Trappers Encampment. Near French Camp.	Encampment from 1832-1844.	
IIC5	City of Stockton Water Front and downtown area from Hard- ing Way South to Clay Street. Includes:	Includes portion of original Mexican grant. Once had substantial river history-related buildings, now mostly lost to redevelopment.	

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
5.a	Saint Mary's Catholic Church.	Dedicated in 1861.	
5.b	Hotel Stockton.	Mission revival architecture.	
5.c	Sperry Flour Mill Office.	Built in 1888. Housed second largest flour mill in California. Victorian commercial architecture.	
5.d	Superintendents Residence State Hospital.	Built in 1900. Neo-classic architecture.	
5.e	Weber Primary School.	Built in 1873. Oldest brick building in Stockton.	
5.f	Saint John's Episcopal Church and Guild Hall.	Charles Weber donated land for church. Built in 1892. Guild Hall built in 1889. Nordic architecture.	
5.g	Hurrle - Weston Home.	Built in 1906.	
5.h	Benjamin Holt Home.	Built in 1899. He invented the caterpillar tractor, the key to Delta reclamation (and origin of army tanks).	
5.i	Newell Home.	Built in 1907. Victorian architecture.	
5.j	County Jail.	Site. Was a towered and turreted structure built in 1893. Known as "Cunningham's Castle."	
5.k	County Courthouse.	Site. Land donated by Charles Weber.	
5.l	Sante Fe Depot.	Built 1900, California mission style. Served to connect the railroad with the riverboat traffic between Stockton and San Francisco.	
5.m	Weber Point and site of Captain Charles Weber's House.	Portion of original Mexican grant "El Campo de los Franceses." Captain Weber founded Stockton.	
5.n	Wagner Leather Company and Pacific Tannery.		
5.o	Wong Mansion.		

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN
(cont.)

Map #	Name of Area, Location	Type of Area	Comment
5.p	Engin House No. 3.		
5.q	First Settlers Building, Lindsay Point.	Site.	Tule hut built in 1844.
5.r	Stockton's First High School.	Site.	Organized in 1870.
IIC6	Weber Family Home.		Constructed after original home destroyed.
IIC7	Stockton Rural Cemetery.		Established 1860.
IIC8	Revel Colt Gridley Monument.		Burial site of Civil War "Soldier's Friend" (Raised relief funds).
IIC9	Temple Israel Cemetery.		Established in 1851. Oldest Jewish cemetery in continuous use west of the Rockies.
IIC10	Beached Riverboat, North MacDonald Island.		The last remnant of riverboat history.
IIC11	Grindstone Joes, Little Potato Slough.		Reclaimed and beautified island by one man in 1930's. Now a private club.
IIC12	First Improved Road in California.		Site of demonstration road for 1907 conference.
IIC13	Landing Place of Sailing Launch "Comet".		Site of landing for first vessel to ascend San Joaquin River, 1846. Carried settlers.
IIC14	Benson's Ferry, Mokelumne River.		Site. Remains of old building. Benson tried to form "Mokelumne County."
IIC15	Burial Place of John Brown.		Relayed information during Mexican War of 1846.
IIC16	Dutch Point.		Early public house on all-weather road, Stockton to the southern mines. Outside of DAPC area but pertinent.
IIC17	First Transcontinental Railroad Linkup, Mossdale Crossing.		Site of completion of Pacific Railroad. San Joaquin River Bridge completed the last link. First train over bridge, Sept. 8, 1869. State Landmark #780-7.
IIC18	Brick silos and brick barns between Paradise Slough and San Joaquin River, near Highway 205.		Built in 1930s. Five silos are scenic landmark. Barn could be restored for museum. Owners will preserve.
IIC19	San Joaquin City.		Site of town. Built in 1849. Outside DAPC area but pertinent. Riverboat terminal and site of river crossing for pioneers at Durham's Ferry.

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

D. COUNTY OF SOLANO

Map #	Name of Area, Location	Type of Area	Comment
IID1	Town of Collingsville, Sacramento River.	Originally a fishing village on stilts, built 1859. Once had 3 salmon canneries. "Regional Cultural Resource Area."	
IID2	Hastings Adobe (or Montezuma's Adobe).	Built in 1846. Second oldest building in Solano, and perhaps oldest in Northern California. PG & E owns. Poor condition.	
IID3	Port of Maine Prairie, head of Cache Slough.	Site of port. Built in 1859.	
IID4	<u>Delta King</u> steamboat, moored north of Rio Vista.	Aging and deteriorating. Sister ship to <u>Delta Queen</u> now cruising the Mississippi River. Potential museum.	

II. SIGNIFICANT HISTORIC
RESOURCE AREAS

E. COUNTY OF YOLO

Map #	Name of Area, Location	Type of Area	Comment
IIE1	Town of Clarksburg, Sacramento River.	Built in 1849. "Regional Cultural Resource Areas."	
IIE2	Town of Broderick, (Washington Riverfront), Sacramento River, across from Sacramento.	Built in 1849 with a history much like Old Sacramento.	
2.a	Site of "Washington and Sacramento Company, "Steam-Driven Ferries, at foot of C Street.	Built in 1842 or earlier. Remnants of launching area remain.	
2.b	Yolo County Courthouse.	County seat until flooding in 1850.	
IIE3	First Pacific Coast Salmon Cannery.	Site of barge used in 1864-1866. Developed salmon canning technique.	
IIE4	Russian Orthodox Greek Catholic Church, Bryte.	Built in 1910. Only such church of this century north of San Francisco.	
IIE5	Yolo Plank Road and Turnpike ("Tules Jake Road").	Site of toll road built in 1855 across tules for 4½ miles from Washington to "Tule House."	
IIE6	Putah Creek Archeological Sites.	Sites of Indian villages at several locations along stream. (Not mapped)	
IIE7	Sacramento River Archeological Sites.	Sites of Indian villages at several locations. (Not mapped)	

INVENTORY OF SIGNIFICANT DELTA RECREATIONAL RESOURCE AREAS

III. SIGNIFICANT RECREATIONAL RESOURCE AREAS

A. COUNTY OF CONTRA COSTA

Map #	Name of Area, Location	Type of Area	Comment
IIIA1	Antioch San Dunes, San Joaquin River	Last Delta sand dunes. Some access is possible if controlled. Habitat of California legless lizard must be protected.	
IIIA2	Antioch San Dunes and Quarry Canyon, San Joaquin River (1 mile from A1)	Delta sand dunes on river with well vegetated "canyon" (restored quarry) excellent for use. Scenic, but subject to industrial emissions. Habitat of California legless lizard must be protected.	
IIIA3	Big Break, East County, near Bethel Island	Flooded tract. Emerging marsh. Some upland for recreational land use. Industrial zoning threatens.	
IIIA4	Quimby Island	Uplands habitat. Some marsh. Potential park, but no access now.	
IIIA5	Rhode Island	Marsh interior of flooded island. Controlled nature study possibility from cabin on stilts, but access is now hazardous.	
IIIA6	Byron Hot Springs	Old spa, in disrepair. Springs are active. Private property is for sale.	
IIIA7	Bethel Island	The southwest entrance to the Delta. Marinas, restaurants and "staging area" services.	
IIIA8	Eastern Contra Costa Hills	A sub-region of scenic rolling hills. Visually attractive, open space for touring. Good cattle grazing land.	

* This listing is not a catalog of "Places to Go" and does not imply or suggest that public access is possible or even desirable without public investments, ownership, or at least thorough policing and management. Most of the named areas are privately owned, although a few are also subject to the public trust and its restraints. The areas are identified for their potential or present value as recreation sites, as an aid to planning and management programs. In some cases, enhancement or investments can increase the resource area's value. In others, no alterations should occur.

III. SIGNIFICANT RECREATIONAL RESOURCE AREAS

B. COUNTY OF SACRAMENTO

Map #	Name of Area, Location	Type of Area	Comment
IIIB1	Old Sacramento and Adjacent Sacramento City Waterfront.	Entire area has great potential as tourism center for region. Can be connected by rail and steamboat to other river towns.	
IIIB2	Town of Freeport, on Highway 160	"Northern Entrance to Delta." Small rural town threatened by urban development. With open space buffer and design controls, can become a regional resource.	
IIIB2	Beach Lake, south of Freeport, north of Stone Lakes	Marsh. Uplands and riparian habitat. Oaks. Well managed private preserve.	
IIIB4	Stone Lakes Basin, adjacent to I-5	Lakes. Marsh. Riparian and uplands habitat. Oaks. Nature study potential. One of the most important ecological areas in Delta. Controlled access only. To be acquired by state and county.	
IIIB5	Cosumnes River. From Delta Meadows east to Highway 99	Marsh. Riparian and uplands habitat. Oaks. River touring value.	
IIIB6	Delta Meadows	Favorite boat mooring area.	
IIIB7	Snodgrass Slough	Popular for boating and water-skiing.	
IIIB8	Cliff House Beach on River Road, across from Rio Vista	Scenic. Swimming area. Largest Delta beach but public access is denied by signs and barriers. Was Army Engineers' spoil deposit site.	
IIIB9	Unnamed Beach on Highway 160 south of Highway 12 intersection	Scenic. Swimming area. One of largest Delta beaches. Access is now possible. Was Army Engineers' spoil deposit site.	
IIIB10	Steamboat Slough	Popular boat mooring and cruising area. Vegetation is being removed.	
IIIB11	Steamboat Slough Beach	At confluence of slough and Sacramento River.	
IIIB12	Brannan Beach, within Brannan State Recreation Area on 160.	Safe, supervised swimming. Boat launch area. Camping.	
IIIB13	Lower Sherman Island	State wildlife management area. Marsh. Some upland. Popular for fishing.	
IIIB14	I-5 Barrow Sites, Lost Slough	Potential fishing sites.	
IIIB15	Highway 160 Touring Corridor	The "River Road" from Freeport to Antioch Bridge. Only official scenic highway in Delta. (Not Mapped)	

III. SIGNIFICANT RECREATIONAL RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN

Map #	Name of Area, Location	Type of Area	Comment
IIIC1	Mokelumne River. From New Hope Landing east to Highway 99.	Marsh. Riparian and uplands habitat. Oaks. River touring value. Part of the "Mokelumne-Cosumne Complex."	
IIIC2	Brovelli Woods (Forest Lake)	Excellent upland wooded area. Rolling hills. Marsh.	
IIIC3	Beaver Slough, Eastern End	Scenic. Has wide berms for mini-parks. Potential access from Thornton Road.	
IIIC4	Town of Thornton	Due to location (adjacent to I-5), the town, now generally deteriorating, can grow (with design controls) into a tourism oriented community and the "East Delta Entrance." Opening of public access to the nearby Beaver Slough from Thornton Road will be key.	
IIIC5	Old River Islands Area	Upland islands. Riparian habitat. Oaks. Scenic. River touring value. Authorized State Park since 1964, but will be dropped due to local opposition.	
IIIC6	Middle River, Upper. (River runs south to north). North of Old River Islands Area.	Riparian habitat. Scenic. River touring value. Invaluable, well vegetated ecological area.	
IIIC7	Trapper Slough	Closed-off slough. Marsh. Small boats and fishing area.	
IIIC8	Stockton Deep Water Channel Islands (Especially Spud and Hog Islands).	Upland habitat. Oaks, Scenic. Potential park sites.	
IIIC9	Circle Lake, on San Joaquin River south of Stockton	Fish spawning area. Good fishing. Out of current swimming. Excavated area. Now in "Oxbow" lake on river's meander.	
IIIC10	Eight-Mile Road, Oak grove, adjacent to I-5.	Oak grove. Being developed as County park.	
IIIC11	Stockton Waterfront.	"Southeast Entrance to Delta." Some water-dependent tourism development has occurred, more is needed.	
IIIC12	South Park on Southern San Joaquin River.	In public ownership. Significant due to richness of woody vegetation which became infrequent in the Delta after reclamation.	

III. SIGNIFICANT RECREATIONAL
RESOURCE AREAS

C. COUNTY OF SAN JOAQUIN

Map #	Name of Area, Location	Type of Area	Comment
IIIC13	Caswell State Park on Stanislaus River	Same as above. Two areas could be connected by levee trials.	
IIIC14	Mandleville Tip Park	One of the few developed mooring areas in the Delta. County park. Excellent marsh, with wildlife viewing platforms.	
IIIC15	"5 Fingers" mooring area	Boat mooring area. Site origin and ownership unknown.	
IIIC16	Interstate 5 Barrow Pits between Highway 12 and White Slough	These pits will be restored by CALTRANS -- DFG for fishing sites.	
IIIC17	Highway Four Touring Corridor	Good rural road from Stockton into Contra Costa County (Not Mapped).	
IIIC18	Thornton Road - New Hope Road Touring Corridor	Good rural road. It is the Franklin Road extension beyond the Mokelumne. New Hope turns last and is scenic to Highway 99 (Not Mapped).	

III. SIGNIFICANT RECREATIONAL RESOURCE AREAS		D. COUNTY OF SOLANO	
Map #	Name of Area, Location	Type of Area	Comment
IIID1	Prospect Slough, west of Sacramento Deep Water Channel	Large slough in Yolo By-Pass with upland islands. May be the most impressive open space water vista in Delta. River touring.	
IIID2	Sandy Beach, south of Rio Vista	Once was Army Engineer's spoil deposit site. Authorized for County park.	
IIID3	Highway 84 - Ryer Island Touring Corridor	From Yolo boundary, on Ryer Island levee road to Rio Vista (Not Mapped).	

III. SIGNIFICANT RECREATIONAL RESOURCE AREAS		D. COUNTY OF SOLANO	
Map #	Name of Area, Location	Type of Area	Comment
IIID1	Prospect Slough, west of Sacramento Deep Water Channel	Large slough in Yolo By-Pass with upland islands. May be the most impressive open space water vista in Delta. River touring.	
IIID2	Sandy Beach, south of Rio Vista	Once was Army Engineer's spoil deposit site. Authorized for County park.	
IIID3	Highway 84 - Ryer Island Touring Corridor	From Yolo boundary, on Ryer Island levee road to Rio Vista (Not Mapped).	

III. SIGNIFICANT RECREATIONAL
RESOURCE AREA

E. COUNTY OF YOLO

Map #	Name of Area, Location	Type of Area	Comment
IIIE1	Elk Slough, parallel to Sacramento River. Connects with Sutter Slough	Riparian habitat. Scenic. Full of fallen trees. Good aquatic habitat and fishing. Small boats access only.	
IIIE2	Winchester Lake	Water skiing area. Recreation area for private club.	
IIIE3	Sacramento River Levee Berm, West Sacramento - Broderick Waterfront	Well vegetated, scenic area where public access from adjacent urban areas can be developed. Area has potential for well-designed water-dependent development to compliment the Old Sacramento Project across river.	
IIIE4	Jefferson Road - Deep Water Channel Vista Point	A rare point of elevation in the Delta where land and water vista can be enjoyed. A turnout would be desirable.	
IIIE5	Sacramento Deep Water Channel levee berms	Wide berms which can support fishing and other uses. Presently no vegetation.	
IIIE6	Sacramento "River Road" Touring Corridor	The county road counterpart on the other side of the river from Highway 160 (Not Mapped).	

APPENDIX B

DELTA WATERWAYS USE PROGRAM

The following set of standards for guiding the use and development in, on, over, and abutting the Delta waterways was developed jointly from the Delta Action Plan and the Resources Agency Delta Master Recreation Plan. It is only advisory although the Army Engineers often relies heavily on regional and state plans for issuing its permits. However, the Resources Secretary can make these standards mandatory upon its own member units, and the Governor can do the same for the entire executive branch. But only the legislature can make these standards mandatory for local governments and special districts. Each County can enact ordinances which implement this program in its own jurisdiction, but great care must be taken to use the same terms and standards to avoid compounding the Delta history of conflicting plans and programs -- and this was the very reason for initiating the Delta waterways use effort. If changes become necessary, the mechanism for amendment of this program through the Resources Secretary should be used. To facilitate reference, the identical copy of this program which is in the 1976 Delta Master Recreation Plan has been used in this document, including the reliance on "shall" as a mandatory directive to appropriate state agencies. It is recognized that the DAPC plan cannot make these decisions. The few differences in language requested by DAPC have been added in italics. The program is organized as follows:

	<u>PAGE</u>
I. General	
A. Purpose of the Program	83
B. Implementation of the Program	83
C. Doctrine of the Public Trust	84
II. Delta Waterways Classifications	
A. Introduction	87
B. Natural Area	87
C. Scenic Area	88
D. Multiple Use Area	88
E. Special Use Zones	
1. Restricted Wake Zone	88
2. Limited Speed Zone	89
3. Recreational Use Zone	89
III. Delta Waterways Project Standards	
A. Policy of "Water-Dependent" Projects .	91
B. Exemptions	91
C. General Project Standards	
1. Planning and Coordination	92
2. Siting and Construction	93
3. Public Health and Safety	94
4. Environmental and Aesthetic	95
D. Specific Projects Standards	
1. Flood Control Projects	95
2. Parks and Recreation Projects . .	96
3. Transportation, Water Conveyance and Utility Projects	97
4. Industrial Projects	97
5. Commercial Projects	98
6. Private Projects	99

WATERWAYS USE PROGRAM

I. GENERAL

A. Purpose of the Program

This program is established to guide uses and development in, on, over and abutting^{1/} all Delta waterways, unless specific portions of the Delta are more stringently regulated by appropriate governmental agencies. The program is specifically intended to: protect, preserve, and restore the Delta's natural and ecological values; halt development of, and cause removal of, unauthorized^{2/} projects^{3/} in, on, over and abutting Delta waterways, or cause permit processes to be initiated; establish uniform standards for all levels of government to use in evaluating project proposals; reduce conflicts between uses and to encourage a wider distribution of recreational activities throughout the Delta; protect the public interest and the public trust (see Section I.C.) in the Delta waterways; and improve public health and safety.

B. Implementation of the Program

1. These standards shall be mandatory upon and observed by all departments, boards and commissions of the Resources Agency unless they conflict with statutory authority and shall be used by the Resources Agency in responding to U.S. Corps of Engineers Public Notices for permit requests in the Delta.

2. These standards are recommended:

a. For use by all other state agencies and shall become mandatory upon Executive Order by the Governor and/or legislative action.

^{1/} It is recognized that, generally, the state has jurisdiction over waterways to Mean Higher High Water (MHHW) and has delegated its land use authority to local governments. Consequently, local government is encouraged to establish land use regulations consistent with the Delta Master Recreation Plan including this waterways use program.

^{2/} "Unauthorized" means a facility which has not received all required federal, state and local permits or clearances.

^{3/} "Projects" are defined as any public or private construction, development or alteration which has a potential for physical impact on the environment.

b. For use by all federal agencies and especially the U.S. Corps of Engineers and the U.S. Fish and Wildlife Service in the Section 10 (of the Rivers and Harbors Act of 1899) and 404 (of the Federal Water Pollution Control Act of 1972) permit programs for control of navigation, alteration of water bodies, and disposal of dredge materials.

c. To local governments for implementation by land use regulations consistent with waterways classifications and enactment of any special ordinances necessary, provided they conform with Section 660 of the Harbors and Navigation Code, and for evaluation of all projects with approval contingent upon consistency with the standards.

d. To special districts as guidelines in any construction projects or levee maintenance efforts.

3. The Resources Agency may amend, as required, this Delta Waterways Use Program but only after a public hearing and full review by the affected jurisdictions.

4. The large scale official "Delta Waterways Use Map" shall be maintained in the Resources Agency for reference.

5. The establishment of "Special Use Zones" (speed, wake and recreation) shall receive special emphasis. Speed and wake zones shall be established according to provisions of the Harbors and Navigation Code. A copy of every proposed ordinance which would establish speed or wake zones or special recreational use areas shall be transmitted to the Resources Agency and the Department of Navigation and Ocean Development^{4/} for evaluation as to consistency with the objectives and standards of this program. Actual implementation of speed and wake zones or special recreational use areas lies in their adoption, posting and enforcement by local governments.

6. Unauthorized structures require increased identification by the U.S. Corps of Engineers and State Lands Division. All administrative procedures for either removal or permitting such structures will be utilized before relying on judicial determination.

C. Doctrine of the Public Trust

A declaration upon which the concept of the "public trust" over the State's tide and submerged lands is established and maintained as contained in a statement made by Chief Justice Taney of the

^{4/} As per the requirements of Section 660 of the Harbors and Navigation Code.

United States Supreme Court. According to Chief Justice Taney, "When the revolution took place, the people of each state became themselves sovereign; and in that character hold the absolute right to all their navigable waters, and the soils under them, for their own common use."^{5/} Subsequent to the information of the United States, each additional state was admitted into the Union under the doctrine of "equal footing", that is, on a basis equal to that of the original thirteen states. It is through the application of this doctrine in 1845^{6/} to the beds of navigable waters that the sovereignty over the tidelands (the lands lying between the lines of ordinary high and low tide) passed to California on September 9, 1850.^{7/}

One of the earliest references to the "public trust" in California was in 1854 when the State Supreme Court said that the State: (1) holds the complete sovereignty over her navigable bays and rivers and (2) owns such lands for the purpose of preserving the public easement, or right of navigation.^{8/} This concept has been further defined as "a title held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have the liberty of fishing therein free from the destruction or interference of private parties..."^{9/}

^{5/} Martin v. Waddel, 16 Pet. (41 U.S.) 410, (10 L. Ed. 997).

^{6/} Pollard's Lessee v. Hagen, 3 How. 212, 230 (1845).

^{7/} There were no definitive guidelines at this time which could extend the sovereignty of either the state or the federal government into the navigable waters of the ocean (beyond the low water mark of the marginal sea). The major aspect of this question was clarified with the passage, by Congress, of the Submerged Lands Act (67 Stat. 29, "Public Law 31-83 Congress"). The effect of the Submerged Lands Act was a reaffirmation of the bases upon which the states had earlier based their jurisdiction over the submerged lands, i.e., (1) the validity of the states' historical action at the time of its entrance into the Union in extending its boundary beyond the low water mark out to the three-mile limit; and (2) the navigable waters criteria in distinguishing federal and state jurisdiction over submerged lands within a state's boundaries. Under the provisions of the Act, the United States conceded that California owns all lands beneath the ocean between the low water mark and three geographical miles seaward from this mark.

^{8/} Eldridge v. Cowell, 4 Cal. 80, 87 (1854).

^{9/} Illinois C. Ry. Co. v. Illinois, 146 U.S. 452.

In 1867, the Court established a precedent which pertains specifically to the State's administration of the tidelands within its jurisdiction and the responsibilities of those to whom the State grants such lands. Under this decision, "The right of the State is subservient to the public rights of navigation and fishery, and theoretically, at least, the State can make no disposition of them (the tidelands) prejudicial to the right of the public to use them for the purposes of navigation and fishery, and whatever disposition she makes of them her grantee takes them upon the same terms upon which she holds them, and, of course, subject to the public rights above mentioned."10/

The State's power of disposition over the sovereign tide and submerged lands was further defined in 1897 when it was determined that, "No grant of lands covered by navigable waters can be made which will impair the power of a subsequent legislature to regulate the enjoyment of the public rights. The trustee takes the mere proprietary interest in the soil, and holds it subject to the public easement."11/

A modern statement of the evolving nature of the public trust doctrine is found in the case of Marks v. Whitney (6C. 3d251).

The public uses to which tidelands are subject are sufficiently flexible to encompass changing public needs. In administering the trust the State is not burdened with an outmoded classification favoring one mode of utilization over another.

There is a growing public recognition that one of the most important public uses of the tidelands -- a use encompassed within the tidelands trust -- is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area. It is not necessary to here define precisely all the public uses which encumber tidelands.

Although provisions of the State Constitution (Article I, Section 25; Article XV, Sections 2 and 3) operate as restraints upon grants to private parties rather than as a constraint upon legislative policy, the Court in People v. California Fish Co., 166 Ca., 576, P. 597 (1913) summarized in part that:

"The administration and execution of this trust is committed by the constitution to the legislative department, subject to certain expressed reservation and restrictions." And, in the case of County of Orange v. Heim, 30 Cal.3d 694 (1973), the court observed that "...the determination of the State Lands Commission pertaining to administration of the trust pursuant

10/ Ward v. Mulford, 32 Cal. 372 (1867).

11/ Oakland v. Oakland W. F. Co., 118 Cal. 183 (1897). A more recent case addressing the impairment doctrine is County of Orange v. Heim, 30 Ca. 3rd 694.

to an express delegation of authority from the Legislature must be classified as quasi-legislative in character."

II. DELTA WATERWAYS CLASSIFICATIONS

A. Introduction

1. All Delta area waterways are classified as one of the following: "NATURAL AREA", "SCENIC AREA", or "MULTIPLE USE AREA". The natural and scenic designations essentially represent the environmental and aesthetic values of the waterway and its abutting lands, while the multiple use designation reflects the waterway's capability to sustain a greater variety of activities.

2. In addition, three special use zones ("RESTRICTED WAKE", "LIMITED SPEED", and "RECREATIONAL USE") can be established by local governments as overlaid controls for specific situations in conformance with federal and state standards (see Section II. E.).

3. Specific standards for projects within each waterway classification are established in Section III.

B. Natural Area

1. Definition

Those waterways, or portions of waterways and abutting lands, including levees, exhibiting scenic, ecological, or natural values of statewide significance.^{12/} These areas should be preserved to perpetuate the public trust; to protect wildlife habitat, existing vegetation, and remnants of the waterways history; to retain areas having solitude and wilderness-like features; and may be used for nonintensive recreation.

Included within this classification are all undeveloped^{13/} nonleveed channel islands throughout the Delta. This does not necessarily imply public ownership but only serves to identify all nonleveed islands as areas of significant natural resources and/or historic value.

2. Recreational Activities

Examples of appropriate activities in these areas would be: nature study, hiking, swimming, fishing, canoeing and slow-boat cruising. Water skiing and high speed boating

^{12/} Statewide significance means the area has such a high environmental value that it could be a candidate for acquisition as a state or federal park, preserve, reserve or wildlife management area.

^{13/} Undeveloped includes those nonleveed islands with unauthorized uses and excludes those portions with authorized uses.

in natural areas should be discouraged and shall be prohibited within certain Special Use Zones (see Section II.E.).

C. Scenic Area

1. Definition

Those waterways or portions of waterways and abutting lands including levees which are of a lesser ecological or natural value than "Natural Areas" or have the potential for enhancement and which can support a wider range of active recreational activities without adverse environmental impact. These areas shall be managed and used to protect and further the public trust, protect wildlife habitat and existing vegetation, permit compatible public recreation uses, retain remnants of the waterways history, restrict inappropriate development in the waterway, and maintain through-navigation.

2. Recreational Activities

Appropriate in these areas are more intensive activities such as water skiing and high-speed boating except within certain special use zones (see Section II.E.). Also appropriate are a larger variety of land-based recreational uses than acceptable in natural areas.

D. Multiple Use Area

1. Definition

Those waterways, or portions of waterways, which have little or no natural values and moderate to minor scenic values. They may have substantial waterside development and/or generally have sufficient water surface to accommodate a variety of intensive uses. These areas shall be managed and used to protect and further the public trust, restrict inappropriate development in the waterway, and maintain through-navigation.

2. Recreational Activities

Appropriate in these areas are all activities described for Natural and Scenic Areas except where special use zones (see Section II.E.) have been established.

E. Special Use Zones

1. Restricted Wake Zone^{14/}

a. Tentative Definition

An area where a wake which strikes the shore, levee, or moored vessel shall not show a white water break.

^{14/} See the 1976 Delta Master Recreation Plan.

b. Purpose

To protect sensitive ecological resources, moored vessels or any area where boat wakes can create a hazard or safety problem.

c. Implementation

Shall be established by ordinance of the appropriate local governments.(see Section I.B.5.).

d. Identification

Shall be shown on the Delta Waterways Use Map as a red encircled W and shall be posted on the waterway in accordance with the California Waterway Marker System.

2. Limited Speed Zone

a. Definition

Maximum five nautical miles per hour speed limit.

b. Purpose

To protect public safety in areas with navigation hazards or conflicting uses.

c. Implementation

Shall be established according to Section 267 of the Harbors and Navigation Code and where identified by local ordinance.

d. Identification

Shall be shown on the Delta Waterways Use Map as a red encircled speed limit and shall be posted on the waterway in accordance with the California Waterway Marker System.

3. Recreational Use Zone

a. Definition

Areas set aside for specific recreational uses, although more than one special use zone may be established in the same area. This includes but is not limited to the following:

(1) Nature Study Preserve - An area which has natural, wildlife, scientific or educational values, conveys a sense of solitude and merits public acquisition. Hunting and trapping should be prohibited

(2) Swimming Site - Public or private beaches open for public use only when supervising personnel are present.

(3) Boat Anchorage Site - Areas protected from prevailing winds and frequently used for temporary mooring by recreational boaters.

(4) Canoe Channel - Waterways, or portions thereof which are most appropriate for use by nonmotorized boats.

(5) No Ski Zone - Areas where waterskiing is dangerous or undesirable.

b. Purpose

To protect public safety and/or eliminate conflicting activities in areas that are clearly suited for a particular recreational use.

c. Implementation

Shall be established through enactment of appropriate local ordinances (see Section I.B.5.). The Resources Agency may recommend such areas to the appropriate local governing body.

d. Identification

Shall be shown on the Delta Waterways Use Map by an appropriate symbol and should be posted on site.

III. DELTA WATERWAYS PROJECT STANDARDS

A. Policy of "Water-Dependent" Projects

1. Policy

It is the basic policy of this program that only water dependent projects and essential transportation, water conveyance and utility projects (subject to the specific standards of Section III.D) shall be authorized in, or over the waterways of the Sacramento-San Joaquin Delta. Local governments should limit projects on abutting lands to those which are water dependent.

No new floating or fixed residential structures, recreation rooms or living quarters of any kind shall be permitted in, on or over any Delta waterway. All existing unauthorized floating or fixed residential structures, recreation rooms or living quarters of any kind placed in, on, or over any Delta waterway since February 1973^{15/} shall not be permitted to remain and shall be removed from the waterways. The disposition of all existing unauthorized floating or fixed residential structures, recreation rooms or living quarters of any kind placed in, on or over any Delta waterway prior to February 1973^{15/}, shall be determined on an individual basis. The policy expressed in this paragraph does not include watercraft which have been designed and used primarily for transportation.

2. Definition

Water dependent means a project, or components of a project which requires immediate water frontage to accomplish its intended function.

3. Examples

Docks; piers; boatsheds; berthing, launching, fuel, and pumpout facilities; water recreation equipment rentals; fishing sites; waterside parks; boat anchorages; pump, drain and outlet structures; industrial facilities for the shipping or receiving of raw or processed materials by water. Waterview restaurants, having public access to and along the shoreline and with design features which complement the immediate environment, may also be considered as water dependent.

B. Exemptions

1. Exemption Process

Project proposals (public or private) may be exempted from one or more of these standards, upon a finding (by the

^{15/} Date of Delta Master Recreation Plan which prohibited placing these kinds of structures in or over Delta waterways.

Resources Agency when state permits are required) that a clear public need is demonstrated, the public trust will not be significantly adversely affected, no feasible alternative location exists and adequate mitigation of adverse impact is provided. However, an exemption for a proposed project within a "Natural Area" shall be preceded by a public review of an initial study or environmental impact report which has been circulated through the state and metropolitan clearinghouses.

2. Fully Exempted Projects

- a. Repair or replacement, without expansion, of all existing and authorized water dependent facilities will be permitted. Expansion of existing facilities, however, will be subject to these standards.
- b. Agricultural projects such as pumps, drains and other water dependent facilities are exempt from these standards. Agricultural projects shall not be interpreted to include any agricultural-related industry as an exempted use.

C. General Project Standards

1. Planning and Coordination

a. Projects shall:

(1) Have been granted all necessary federal, state and local permits prior to any work in, on, over or abutting waterways or shall be considered as unauthorized.^{16/} (See Chapter VII of the Delta Master Recreation Plan for description of permits.)

(2) Be consistent with the concept of the public trust.

(3) Be compatible with the classification of, and predominant uses and development on, the waterway.

b. Projects shall not:

(1) Limit the diversity of public uses appropriate in the waterways as determined by its classification.

(2) Reduce public use of, or access to, approved recreation areas or areas in the public trust.

c. Projects should be consistent with local ordinances and plans, adopted regional plans and the objectives and standards of this program. Local governments should ensure that their regulations, actions, policies and fiscal programs are consistent with the following standards.

^{16/} Unauthorized means a facility which has not received all required federal, state and local permits or clearances.

2. Siting and Construction

- a. Projects shall be clustered in areas of similar uses, wherever feasible.
- b. Private projects in, on, or over the waterways should be joint or community use, wherever feasible.
- c. Only the water-dependent components of any project shall be located in, on or over the waterway. Local government should limit projects on abutting shorelines to those which are water dependent.
- d. Maximum extensions perpendicular (into) and parallel (along) any waterway for all proposed private, commercial and public structures shall be subject to the most restrictive of the following if they are to be located in-channel:

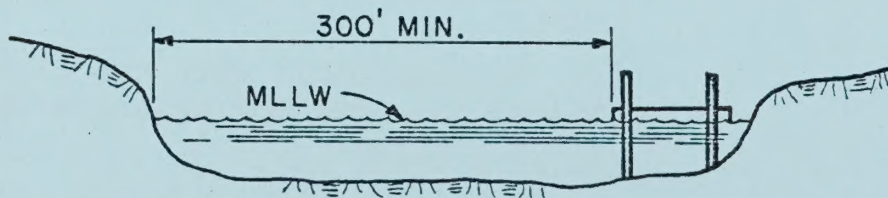
(1) Maximum extensions into the waterway:^{17/}

(a) 200 ft. at mean lower low water (MLLW) for commercial and public facilities.

(b) 100 ft. at MLLW or to the line of existing adjacent structures in areas of intensive shoreline development, whichever is less, for private facilities.

(c) One-third of the horizontal distance across the waterway at MLLW.

(d) 300-foot clearance^{18/} between the intrusion's maximum extension and the undeveloped opposite bank at MLLW.^{19/}

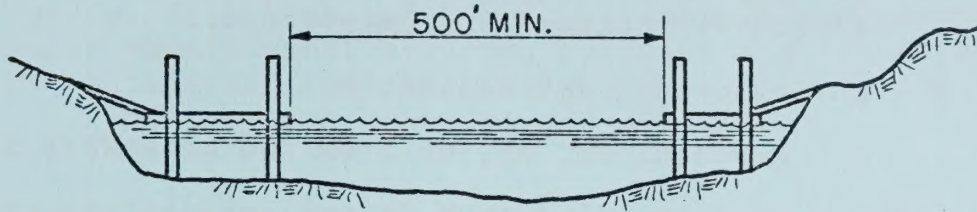


^{17/} These criteria may be waived if the proposed project is to be located at the navigable extreme of dead-end sloughs, within out-of-channel lagoons or behind protective berms or levees provided that water quality and navigation will not be adversely affected.

^{18/} The purpose of this criterion is to maintain a 100-foot unrestricted navigation channel (existing law requires a five nautical miles per hour speed limit within 200 feet of in-water construction occupied by people or boats).

^{19/} This restriction may be waived in areas of existing and authorized developments.

(e) 500-foot clearance^{18/} between the intrusion's maximum extension and the maximum extension of any intrusion from the opposite bank.^{19/}



(2) Maximum extensions along and within the waterway:

(a) Shall use the minimum necessary shoreline.

(b) Shall be no more than 100 ft. or one-half the shoreline length of the upland property, whichever is more restrictive, for private, non-commercial structures.

(c) Shall be a maximum of 350 ft. (either continuous or discontinuous) for commercial and public facilities unless it is determined, through the exemption process, that additional waterway frontage is necessary for a commercially feasible facility.

3. Public Health and Safety

a. Projects with structures for human habitation or visitation shall be prohibited in the high velocity flow floodway to meet the requirements of the Federal Flood Disaster Protection Act of 1973. In the adjacent flood-prone area, such structures should be protected from, or elevated above, the "100-year flood".

b. Projects in, on, or over the waterway shall:

(1) Not adversely affect the required flood carrying capacity of a channel or create a potential of dangerous flotsam.

(2) Not create a safety or navigation hazard.

(3) Not create adversely competing uses.

(4) Not adversely affect the stability of the levee of lands adjacent to the waterway or cause the formation of sandbars or shoals.

c. Project approvals may be conditioned upon removal of debris, abandoned structures or any other safety hazard.

d. New access corridors to the waterways should be adequately policed and maintained.

4. Environmental and Aesthetic

a. Projects in, on, or over the waterways shall:

(1) Cause minimum disturbance to the shoreline area.

(2) Cause minimum dredged, fill, or bulkheading.

(3) Utilize maximum compatibility of design, materials, texture, and color with existing natural features.

(4) Mitigate for lost vegetation.

b. Projects in, on, or over the waterways shall not:

(1) Detract from the general aesthetics of the area.

(2) Create a substantial adverse impact upon marshes and riparian wildlife habitat.

(3) Create a substantial adverse impact upon the aquatic environment and streambed. Project construction shall be timed to ensure there is no significant adverse impact upon anadromous fish runs according to procedures established in Sections 1500, 1601 and 1602 of the Fish and Game Code.

(4) Reduce the ecological or scenic values of an existing or approved state or local park, ecological preserve or wildlife management area. Projects shall also be evaluated for their impact upon such areas which have been formally recommended for acquisition by appropriate governmental agencies.

D. Specific Projects Standards

1. Flood Control Projects

Include both public and private physical construction works and maintenance efforts for the protection of land areas from Delta waters.

a. Public Programs

All state fiscal assistance programs for Delta levees shall ensure as a minimum that the following objectives and standards are met. The U. S. Corps of Engineers, special districts and local governments should ensure that their regulations, actions, policies and fiscal programs are consistent with the following.

b. "Natural Areas"

Vegetation in, on, or over Delta waterways shall be retained, and vegetation on the levees should be retained, except for that which adversely affects levee stability, navigation, or the required flood carrying capacity of the channel. State fiscal assistance programs shall give priority to retention of vegetation. Vegetation losses should be mitigated by replacement of identical or improved vegetation in areas where replacement would not adversely affect levee stability, navigation, or the required flood carrying capacity of the channel. *Increased costs should be borne by public assistance.*

c. "Scenic Areas" and "Multiple Use Areas"

Vegetation in, on, or over Delta waterways and levees should be retained to the maximum extent possible except for that which adversely affects levee stability, navigation, or the required flood carrying capacity of the channel.

2. Parks and Recreation Projects

Include both public and private areas open to the public for recreation.

a. "Natural Areas"

Projects on state lands shall be limited to those for non-intensive activities relying primarily on water access; other public and private parks should be similarly limited. Facilities should be nonobtrusive and have a minimal impact on the area. No facilities which preclude use by the public should be permitted.

b. "Scenic Areas" and "Multiple Use Areas"

Appropriate in these areas are more intensive use water-dependent projects such as boat launching sites, developed boat destination anchorages, fishing access sites and parks supporting a wider range of activities. All such projects shall ensure that the scenic values of the area are retained with mitigation for vegetation loss. Land access to the sites is desirable if feasible.

All nonleveed channel islands throughout the Delta are classified as "Natural Areas". However, within Scenic and Multiple Use waterways, this classification does not preclude public projects on or within the islands for purposes of recreation, education and wildlife enhancement.

3. Transportation, Water Conveyance and Utility Projects

Include, but are necessarily limited to, public and private roads, bridges, pipelines, power lines, water and sewage treatment facilities and aqueducts.

a. "Natural Areas"

Projects shall not be located in, on, or over the waterways unless the exemption process (Section III.B.1.) clearly indicates a public need, lack of a feasible alternative location and establishes a requirement for the highest degree of mitigation. Projects on abutting lands should be permitted by local governments only under the same conditions.

b. "Scenic Areas" and "Multiple Use Areas"

Projects in, on, or over the waterways shall be limited to existing corridors and locations to minimize scenic intrusions. Other corridors or locations may be developed upon a finding in the exemption process (Section III.B.1.) that feasible alternate locations are not available. Projects on abutting lands should be permitted by local governments only under the same conditions.

4. Industrial Projects

Include, but are not necessarily limited to, production facilities, piers, wharves, and loading-unloading facilities.

a. "Natural Areas" and "Scenic Areas"

Projects shall be prohibited in, on, or over the waterways and should be prohibited within abutting lands by local governments.

b. "Multiple Use Areas"

Projects in, on, or over the waterways shall be limited to water-dependent facilities and on abutting lands should be similarly limited by local governments.

5. Commercial Projects

Include, but are not necessarily limited to, piers, docks wharves, marinas and attendant facilities, restaurants, bars, lodging, fishing and water-dependent recreational facilities.

a. "Natural Areas"

Projects shall be prohibited in, on, or over the waterways and should be prohibited within abutting lands by local governments.

b. "Scenic Areas"

Projects in, on, or over the waterways shall be limited to water-dependent facilities, subject to the following:

(1) Marinas and attendant facilities shall be located out of channel, i.e., behind berms, levees or in dead-end sloughs.

(2) Water-view restaurants may be allowed, providing the project has minimal adverse impact, is designed to be highly compatible with the natural environment and includes public access to and along the shoreline.

(3) Floating restaurants shall be limited to the interior of lagoons, basins or marinas unless located at sites in existing restricted speed zones or adjacent to existing construction and do not create conflicting uses or adverse environmental impact.

(4) Moored vessels having historic values, as determined by the Resources Agency, may be retained or placed at appropriate sites.

Projects on abutting lands should be similarly limited by local governments.

c. "Multiple Use Areas"

Projects in, on, or over the waterways shall be limited to water-dependent facilities. Marinas and attendant water-dependent facilities, floating restaurants and historic vessels may be located in-channel subject to through-navigation standards of Section III.C.2.d. Projects on abutting lands should be similarly limited by local governments.

6. Private Projects

Include, but are not necessarily limited to, piers, docks, boatsheds, residences and boat and hunting club facilities.

a. "Natural Areas"

Projects shall be prohibited in, on, or over the waterways and should be prohibited within abutting lands by local governments.

b. "Scenic Areas"

Projects in, on, or over the waterways shall be limited to group use or community use water-dependent facilities. Projects on abutting lands should be similarly limited by local governments.

c. "Multiple Use Areas"

Projects in, on, or over the waterways shall be limited to water-dependent facilities. Projects on abutting lands should be required, by local governments, to be clustered in areas of similar uses. Residential structures on abutting lands should be limited by local governments to Multiple Use Areas and to construction which is adequately protected from flooding and designed to compliment the environment.

APPENDIX C

"THE DAPC STATEMENT OF CALIFORNIA WATER USE AND CONSERVATION PRINCIPLES"

- I. The management and use of water throughout California has a direct impact upon the ecological integrity of the Bay-Delta Estuarine System and should therefore be addressed by the Delta Plan.
- II. The mission and authority of the State Water Resources Control Board (SWRCB) should be fully retained and supported.* The regulatory decisions of the Board should be subject only to judicial review in appropriate cases.
- III. The integrity of the Porter-Cologne Act should not be abridged.*
- IV. The California Legislature should direct the preparation of a new comprehensive State Water Plan to supercede DWR Bulletin #3 published in 1957. Such a plan should be reviewed by an annual report and should address and balance at least the following issues:
 - A. An overall state policy on the use of water in California with special emphasis on environmental and recreational responsibilities.
 - B. The coordinated operation of the State Water Project and the Central Valley Project.
 - C. Reclamation and reuse of wastewater as a major alternative source.
 - D. Salt water desalinization as a major alternative source.
 - E. Other alternatives in water development.
 - F. Reduction of water demand throughout the state, especially in urban areas, by state programs encouraging and implementing water use conservation practices.
 - G. The relationship of the basin water quality plans with present water management and development policies and programs.
 - H. Ground water management.
- V. Comprehensive water planning must be integrated or conducted in close association with comprehensive land use planning.

* These position were first supported by DAPC Policy Resolution 8 on June 25, 1974.

- VI. The California Legislature and the Department of Water Resources should emphasize the development of alternate sources of water, especially by waste water reclamation and desalinization, with an effort by the State of California in these areas comparable to that invested in developing the State Water Project.
- VII. The California Legislature should study the degree of coordination and transferral of data between all studies and projects on wastewater reclamation whether by federal, state, educational, or special district agencies. In the annual report on the State Water Plan, a section on wastewater reclamation should present recommendations for improvement of programs where indicated and consolidated where feasible.
- VIII. The California Legislature should direct the Department of Water Resources, the State Water Resources Control Board, and the Department of Health to produce the definitive state policy and analysis of wastewater reclamation and reuse, thereafter be included in the State Water Plan and studied by the Legislature, with enactment of further programs as necessary.
- IX. Political and legal determinations should be secured to enable the use of alternative sources of water and water demand reduction programs to help satisfy the State Water Project's contracts, and to reduce the state's reliance on northern California and Delta water.
- X. The Bureau of Reclamation should be required to operate the Central Valley Project in accordance with: State laws; regulations established by SWRCB; and operational agreements with the California Department of Water Resources.

Adopted by DAPC on December 11, 1974,
by Policy Resolution 12.

APPENDIX D

DELTA DEVELOPMENT CHECKLIST^{1/}

Would the proposed project...

LOCATION

1. Occur within the "Rural Delta?" If yes, apply the strictest location and design concepts.
2. Occur in, on, over, or abutting a waterway? If yes, apply the Delta Waterway's Use Program. (See Appendix B). Deny, if it is not "water dependent" or is a floating house.
3. Occur in a "100-year" flood or storm runoff area? If yes, apply the Federal Flood Disaster Protection Act of 1973 and all feasible flood proofing design features. If they do not provide adequate assurance of "acceptable low risk," deny project.
4. Occur in other significant natural hazard areas such as earthquake fault zones ($\frac{1}{4}$ miles on each side of known faults), areas of soil subsidence, and areas subject to seismic liquefaction (peat soil areas)? If yes, apply all feasible hazard reduction design features. If they do not provide adequate assurance of "acceptable low risk," deny project.
5. Occur within an identified significant resource area (natural, historic, recreational, or production), especially areas essential to endangered or rare species of flora and fauna, or within a reasonable buffer zone needed to protect the site's integrity? If yes, and it will have any adverse impact, deny project or cause its relocation. If no reasonable alternative location exists, and the project is otherwise overwhelmingly in the general public interest, then the highest level of mitigation^{2/} should be required to reduce the impact.
6. Occur within a "Regional Conservation Area?" If yes, deny project if it damages the area's character or ecological balance.
7. Occur within an area authorized or officially designated for public acquisition? If yes, deny. Occur nearby such an area and threaten a significant adverse impact to natural qualities which stimulated the public interest? If yes, deny project or substantially redesign to remove the conflict.

^{1/} This is a compilation of the concerns and policies of the Delta Action Plan in an advisory checklist. Interpretation and emphasis is by DAPC staff.

^{2/} "Mitigation" should include an evaluation of public acquisition or even the requirement that remainders of the area be preserved by public dedication or through an open space easement.

ADVERSE GROWTH OR DESIGN IMPACTS

8. Cause sewage facilities to approach or bypass capacity?
9. Be of a "leapfrog" character (located beyond the appropriate urban contiguous growth area)?
10. Create a significant growth inducement beyond that appropriate for area?
11. Create a traffic or recreational use congestion beyond the area's "carrying capacity" (including roads)?
12. Remove agricultural land from production?
13. Include a wasteful energy use design?
14. Create a significant noise impact on adjacent uses or natural areas?
15. Be located where unnecessary car usage is generated (vs. an alternative location which requires less driving/fuel consumption/pollutant generation)?

PUBLIC SAFETY

16. Have an adverse impact on levee stability?
 17. Create a potential for flotsman in the floodway?
 18. Be designed to compensate for the soil's carrying capacity (as affected by shrink-swell behavior, liquefaction, subsidence, erosion)?
- o (Also see items 3 and 4)

ENVIRONMENTAL DESIGN FEATURES AND PUBLIC BENEFITS

19. Provide public access to a waterway site?
20. Provide public access along the waterway?
21. Retain existing riparian vegetation, marsh, other wildlife habitat?
22. Include landscaping? With native vegetation?

23. Preserve existing oaks?
24. Be compatible in color, design, and siting with the existing setting?
25. Use only on-site signs which are non-obtrusive in size, color, design, and height?
26. Require grading?
27. Use cluster-concept design with open space corridors and minimum necessary utilization of shoreline?
28. Reduce quality of a scenic vista or site of visual prominence?
 - (Also see items 5, 6, and 7)

PLAN AND REGULATION CONFORMITY

29. Be considered compatible with the Delta Plan? Totally - Mostly - Marginally - Not At All.
30. Be considered compatible with the Delta Master Recreation Plan (Resources Agency, 1976)? Totally - Mostly - Marginally - Not At All.
31. Satisfy CEQA and NEPA and related administrative rulings?
32. Require DFG approval under Sections 1601-1602-1542, Fish and Game Code?
33. Require USCE Section 10 or Section 404 permits (plus USFWS review)?
34. Require State Lands Commission approval if state lands are involved?
35. Require Reclamation Board approval if levees are affected?
36. Require local planning commission advisory review of public works projects as in Government Code Section 65402?
37. Be compatible with the Doctrine of the Public Trust?

APPENDIX E
LIST OF LOCATIONS OF THE DELTA PLAN
TECHNICAL SUPPLEMENT SERIES*

DELTA COUNTIES

. Contra Costa County

- . County Administrator, 2nd Floor, Administration Building,
Martinez, CA 94533, 415/228-3000
- . Planning Department, 2nd Floor, Administration Building,
Martinez, CA 94553, 415/228-3000
- . Public Works Department, 6th Floor, Administration Building,
Martinez, CA 94553, 415/228-3000

. Sacramento County

- . County Executive, Room 431, 827 7th Street, Sacramento, CA
95814, 916/440-5533
- . Planning Department, Room 302, 827 7th Street, Sacramento,
CA 95814, 916/440-6222
- . Parks Department, Room 106, 3701 Branch Center Road,
Sacramento, CA 95827, 916/440-6211
- . Public Works Department, 827 7th Street, Sacramento, CA
95814, 916/440-6581
- . Community Development and Environmental Protection Agency,
827 7th Street, Sacramento, CA 95814, 916/440-5876

. San Joaquin County

- . County Administrator, Room 701, 222 E. Weber Avenue
Stockton, CA 95202, 209/944-2611
- . Planning Department, 1850 E. Hazelton Avenue, Stockton,
CA 95205, 209/944-2203
- . Parks Department, 1860 E. Hazelton Avenue, Stockton, CA
95205, 209/944-2118
- . Public Works Department, 1810 E. Hazelton Avenue, Stockton,
CA 95205, 209/944-2281

. Solano County

- . County Administrator, 2nd Floor, Courthouse, Fairfield,
CA 94533, 707/422-2010
- . Planning Department, 2nd Floor, Courthouse, Fairfield,
CA 94533, 707/422-2010
- . Parks Department, 2nd Floor, Courthouse Annex, Fairfield,
CA 94533, 707/422-2010
- . Public Works Department, County Annex, Fairfield, CA 94533,
707/422-2010

*All persons who are interested in the reasons for DAPC recommendations or are preparing EIRs or technical studies and would like to review the Delta Plan Technical Supplement series should contact any of the persons or agencies listed here.

. Yolo County

- . County Executive, Courthouse, Woodland, CA 95695, 916/666-8300
- . Planning Department, 292 W. Beamer, Woodland, CA 95695, 916/666-8556
- . Parks Department, 292 W. Beamer, Woodland, CA 95695, 916/666-8268
- . Public Works Department, 292 W. Beamer, Woodland, CA 95695, 916/666-8428

DELTA CITIES

- . Antioch - Planning Director, 212 H Street, Antioch, CA 94509, 415/757-3333
- . Brentwood- City Administrator, 708 Third Street, Brentwood, CA 94513, 415/634-3500
- . Isleton - City Clerk, City Hall, Isleton, CA 94509 916/777-6082
- . Lodi - Planning Director, City Hall, Lodi, CA 95240 209/368-0641
- . Pittsburg- City Manager, 2020 Railroad Avenue, Pittsburg, CA 94565, 415/439-8242, Ext. 26
- . Rio Vista- City Administrator, 1 Main Street, Rio Vista, CA 94571, 707/374-6451
- . Sacramento-Planning Director, 915 I Street, Sacramento, CA 95814, 916/449-5604
- . Stockton - Director of Community Development, 425 North El Dorado, Stockton, CA 95202, 209/944-8266
- . Tracy - Director of Community Development, 325 E. 10th Street, Tracy, CA 95376, 209/835-2211

DELTA AREA COUNCILS OF GOVERNMENT

- . Association of Bay Area Governments, Hotel Claremont, Berkeley, CA 94705, 415/841-9730
- . Sacramento Regional Area Planning Commission, 800 H Street, Suite 300, Sacramento, CA 95814, 916/441-5930 (contact Library)
- . San Joaquin County Council of Governments, 1850 E. Hazelton Avenue, Stockton, CA 95205, 209/944-2585

STATE OF CALIFORNIA

- . Legislative Committees, State Capitol 95814
 - . Senate Natural Resources Committee - 916/445-5441
 - . Senate Agriculture and Water - 916/445-2206
 - . Senate Office of Research - 916/445-1727
 - . Assembly Agriculture - 916/445-8570
 - . Assembly Resources, Land Use & Energy - 916/445-9367
 - . Assembly Water - 916/445-9367
 - . Assembly Office of Research - 916/445-9563

- . The Resources Agency, Office of the Secretary, 1416 - 9th Street, Sacramento, CA 95814, 916/445-5656
- . Department of Water Resources, 1416 - 9th Street, Sacramento, CA 95814, 916/445-6582
- . Department of Water Resources, Central District, 3251 S Street, Sacramento, CA 95816, 916/445-6831
- . Department of Fish & Game, 1416 - 9th Street, Sacramento, CA 95814, 916/445-3535
- . Department of Fish & Game, Region II, 1001 Jedsmith Drive, Sacramento, CA 95819, 916/445-2064
- . Department of Fish & Game, Region III, P.O. Box 47, Yountville, CA 94599, 707/944-2443
- . Department of Fish & Game, Bay-Delta Program, 3900 North Wilson Way, Stockton, CA 95205, 209/466-4421
- . State Water Resources Control Board, P.O. Box 100, Sacramento, CA 95801, 916/445-9434
- . Regional Water Quality Control Board, Central Valley Region, 3201 S Street, Sacramento, CA 95816, 916/445-0270
- . Regional Water Quality Control Board, Room 6040, 111 Jackson Street, San Francisco, CA, 415/464-1255
- . Department of Navigation & Ocean Development, 1416 - 9th Street, Sacramento, CA 95814, 916/445-6281
- . Bay Conservation & Development Commission, 30 Van Ness Avenue, San Francisco, CA 94102, 415/557-3686
- . Department of Conservation, 1416 - 9th Street, Sacramento, CA 95814, 916/445-3976
- . Division of Mines and Geology, 1416 - 9th Street, Sacramento, CA 95814, 916/445-9686
- . State Lands Commission, 1807 13th Street, Sacramento, CA 95814, 916/445-1012
- . Department of Parks & Recreation, 1416 - 9th Street, Sacramento, CA 95814, 916/445-2358
- . Coastal Zone Conservation Commission, 1540 Market Street, San Francisco, CA 94102, 415/557-1001
- . Reclamation Board, 1416 - 9th Street, Sacramento, CA 95814, 916/445-9454
- . Office of Planning and Research, 1400 Tenth Street, Sacramento, CA 95814, 916/322-2318

FEDERAL AGENCIES

- . George Miller, Congressman, 367 Civic Drive, Pleasant Hill, CA 94523, 415/687-3260
- . Bureau of Reclamation, 2800 Cottage Way, Sacramento, CA 95825, 916/484-4571
- . Fish & Wildlife Service, 2800 Cottage Way, Sacramento, CA 95825, 916/484-4731
- . U.S. Army Corps of Engineers, 650 Capitol Mall, Sacramento, CA 95814, 916/449-2232
- . U.S. Army Corps of Engineers, 100 McAllister Street, San Francisco, CA 94111, 415/556-0595
- . National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, CZ-6, Room 304, Page Bldg. #1, 3300 White Haven Street, N.W., Washington, D.C. 20235, 202/634-4241

DELTA-RELATED GROUPS

- . Planning & Conservation League, 1225 8th Street, Sacramento, CA 95814, 916/444-8726
- . Sierra Club, National Executive Office, 220 Bush Street, San Francisco, CA 94104, 415/981-8634
- . Ecology Information Center and ECOS, 909 12th Street, Rm. 200, Sacramento, CA 95814, 916/444-3174
- . National Wildlife Federation, Suite 13, 2717 Cottage Way, Sacramento, CA 95825, 916/487-7869
- . People for Open Space, Room 400, 46 Kearny Street, San Francisco, CA 94108, 415/781-8729
- . Audubon Society, 555 Audubon Place, Sacramento, CA 95825, 916/481-5332
- . Suisun Resource Conservation District, 1020 Tuolumne Street, Vallejo, CA 94590, 707/643-1011
- . California Central Valleys Flood Control Association, 1107 9th Street, Sacramento, CA 95814, 916/446-0197

LIBRARIES AND EDUCATIONAL INSTITUTIONS

- . Contra Costa County
 - . Contra Costa Library, Antioch Branch, 501 West 18th Street, Antioch, CA 94509
- . Sacramento County
 - . Resources Agency Library, 1416 - 9th Street, Sacramento, CA 95814
 - . Sacramento City-County Library, 828 - I Street, Sacramento, CA 95814
 - . Sacramento Regional Area Planning Commission Research Library, 800 H Street, Suite 300, Sacramento, CA 95814
 - . State of California Library, Government Publication Center, 9th and Capitol Mall, Sacramento, CA 95814
 - . Sacramento City-County Library, 14185 River Road, Walnut Grove, CA 95690
- . San Joaquin County
 - . Stockton-San Joaquin County Library, 605 North El Dorado Street, Stockton, CA 95202
 - . Tracy Public Library, 1340 Holly Drive, Tracy, CA 95376
 - . Lodi Public Library, 305 West Pine Street, Lodi, CA 95240
- . Solano County
 - . Benicia Public Library, 144 East G Street, Benicia, CA 94510
 - . Dixon Library District Library, 135 East B Street, Dixon, CA 95620
 - . Solano County Free Library, 744 Empire Street, Fairfield, CA 94533
 - . Solano County Free Library, Rio Vista Branch, 44 South 2nd Street, Rio Vista, CA 94571

. Yolo County

- . Agricultural Economics Library, Davis, CA 95616
916/752-1540
- . California Water Resources Center, University of California, Davis, CA 95616
- . Institute of Government Affairs Library, University of California, Davis, CA 95616
- . Yolo County Free Library, West Sacramento Branch, 1229 Merkley Avenue, West Sacramento, CA 95691
- . Woodland Public Library, 250 First Street, Woodland, CA 95695

. Bay Area

- . College of Natural Resources, 112 Giannini Hall, University of California, Berkeley, CA 94720
- . Water Resources Center Archives, Room 40, North Gate Hall, University of California, Berkeley, CA 94720
- . Government Documents Department, Stanford University Library, Palo Alto, CA 94305

. Los Angeles

- . Local Documents Librarian, University of California Research Library, 405 Hilgard, Los Angeles, CA 90024
- . Water Resources Center Archives, Room 2081, Engineering Bldg. 1, University of California, Los Angeles, CA 90024

GLOSSARY*

A

A.G. - Attorney General, 555 Capitol Mall, Sacramento, 95814.

ABAG - Association of Bay Area Governments, Hotel Claremont, Berkeley, 94705.

AQMP - Air Quality Maintenance Plan. See Federal Clean Air Act Amendments of 1970.

ARB - Air Resources Board, State of California, 1709 11th St., Sacramento, 95814.

ABUTTING AREA - As used in the "Delta Waterways Use Plan" (see Appendix B), refers to lands "abutting" waterways which are recommended to local governments for management consistent with the channel's designation (Natural, Scenic, or Multiple Use). Definition is left to the local government and could include, but not be limited to, the following criteria: contiguous areas of lands having a significant physical influence on the waterway, including the levee to its landside toe; contiguous marshes, ponds, sloughs, and overflow basins; the flood-prone area which could be defined as a "designated floodway"; the width of the riparian vegetation corridor along the waterway; and/or the area visible at canoe level from the middle of the waterway.

ACCEPTABLE RISK - An arbitrary standard at least implicitly used by a community's governing board in the preparation of zoning and building ordinances, theoretically based on what degree of risk of natural disaster residents are willing to assume in any area.

ACRE FOOT - The volume of water necessary to cover an area of one acre to a depth of one-foot (43,560 cubic feet; 325,851 gallons).

ADVERSE IMPACT - See IMPACT.

AGRICULTURAL LAND - Land which is used permanently or during alternating seasons for production of food or fiber (includes grazing lands). PRIME AGRICULTURAL LAND - Commonly used concept based on the SCS and Storie systems for evaluating farmability and soil quality. See SUSTAINED ECONOMIC YIELD, SOIL, and ARABLE LAND.

* Agency abbreviations used throughout the Delta Plan documents are listed prior to the definitions in this glossary.

AGRICULTURAL PRESERVE - Land designated for agriculture, recreation, foothill pasture, or conservation based on the County General Plan, subject to size and zoning conditions, to qualify owner for coverage by Williamson Act contracts.

ALLUVIAL FAN - An assemblage of sediments (clay, silt, sand, gravel, or similar detrital material) deposited where waterflow moves from a steep to a flatter gradient and suddenly loses much of its transporting power. See DELTA and SOIL SEDIMENTS.

ANADROMOUS FISH - Fish which live in salt water but spawn in fresh water: salmon, steelhead trout, striped bass.

AQUIFER - An underground layer of permeable material that can store and supply water. See GROUNDWATER.

ARABLE LAND - Land fit for plowing or tillage, as distinguished from swamp land, which is too wet for cultivation.

ARCHEOLOGICAL - Relating to the material remains of past human life, culture or activities. See RESOURCE AREA, HISTORIC.

B

BART - Bay Area Rapid Transit District, 800 Madison St., Oakland, 94607.

BOR - Bureau of Outdoor Recreation, Department of Interior, Federal Building, 450 Golden Gate Ave., San Francisco, 94102.

BENEFICIAL USES - Waters of the state that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; esthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. See Porter-Cologne Act, Water Code Section 13050.

BENTHOS - A collective term describing bottom organisms attached or resting on or in the bottom sediments.

BERM - An earthen shelf or ledge on a levee, usually on the water-side. See LEVEES.

BIOTA - The animal and plant life of a region. See FLORA and FAUNA.

BOATING TRAIL - An aquatic parkway concept which emphasizes boating recreation and occasional waterside park sites. See Public Resources Code Section 5071.76(b).

BUFFER - A land area used to separate conflicting or incompatible land uses. See RESOURCE AREAS.

C

CALTRANS - California Department of Transportation, 1120 N St., Sacramento, 95814.

CAL. DEPT. AG. - California Department of Food and Agriculture, 1220 N St., Sacramento, 95814.

CALIFORNIA LAND CONSERVATION ACT - Enacted in 1965, this act provides a program whereby counties can support the preservation of agricultural land through a contract between the County and an owner, with the land taxed on the basis of its farming use rather than market value. Also known as the Williamson Act.

CARRYING CAPACITY - The maximum number of a species or use that any particular area can support over an extended period of time without undergoing deterioration. See RESOURCE MANAGEMENT.

CENTRAL VALLEY WATER PROJECT (CVP) - A federal project begun in the 1930's by the U.S. Bureau of Reclamation to supply water to the farmers of the Central Valley. Project includes the SAN LUIS DRAIN, which is a 188 mile long channel designed to remove salt-laden drainage water from the San Joaquin Valley. A Delta terminus has been proposed, but is considered controversial.

CHANNEL ISLANDS - Unleveed islands within the Delta waterways which are either remnants of the tidal marsh or were formed from dredging deposits. Also known as tule or spoil islands. An Attorney General's opinion in 1976 declares these lands to be tidelands, and therefore in public ownership. See WETLANDS and TIDELANDS.

COBEY-ALQUIST ACT - California's primary flood plain management legislation. See Water Code Sections 8400-8415.

CONSERVATION - A careful preservation and protection of something, especially a planned management of a natural resource, to prevent exploitation, irreversible diminution, destruction, or neglect.

CONTIGUOUS GROWTH AREA - Those areas immediately adjacent to developed areas authorized by local governments for future urban uses.

CULTURAL RESOURCES - Human-made buildings and artifacts which represent a civilization or an era which is important to understanding human history. In the Delta Plan, includes even much of pre-W.W. II construction in rural areas, due to modern, fast-paced changes which threaten such heritage. Hence many of the Delta villages are "Regional Cultural Resource Areas."

D

DEPT. CONS. - Department of Conservation, Resources Agency, 1416 9th St., Sacramento, 95814 (includes Division of Oil and Gas and Division of Mines and Geology).

DEPT. FIN. - Department of Finance, State Capitol, Sacramento, 95814.

DEPT. HEALTH - Department of Health, Health and Welfare Agency, 714/744 P St., Sacramento, 95814.

DFG - Department of Fish and Game, Resources Agency, 1416 9th St., Sacramento, 95814. See FISH AND GAME CODE.

DNOD - Department of Navigation and Ocean Development, Resources Agency, 1416 9th St., Sacramento, 95814.

DPR - Department of Parks and Recreation, Resources Agency, 1416 9th St., Sacramento, 95814; Central District, 3251 S St., Sacramento, 95816.

DECIBEL - Abbreviated "dB", the decibel is a unit of measurement of the intensity of sound. The common abbreviation, dBA, represents decibel measurement of sound (the A scale) which represents the auditory or hearing sensitivity of the area.

DELTA - A plain underlain by an assemblage of sediments that have accumulated where a stream, flowing into a body of standing water, has had its velocity and transporting power suddenly reduced. Originally so named because many deltas are roughly triangular in shape, like the Greek letter "delta," with the apex pointing upstream. Includes these types: cusate; arcuate; "bird's foot;" and estuarine (which occurs in the river's main stream and does not extend beyond the coast). See also ALLUVIAL FAN.

DELTA, LEGAL - Defined in Water Code Section 12200, as part of the Delta Protection Act of 1959.

DELTA LOWLANDS - Defined in above law as land lying between 5 feet above and 20 feet below sea level.

DELTA WATERWAYS USE PLAN, PROGRAM - A waterways "zoning" tool which originated in the State's 1966 Delta Master Recreation Plan, and was refined in 1973 and again in the 1976 documents. Also in the DAPC Plan, Appendix B.

DISSOLVED OXYGEN - Oxygen measured in parts per million (ppm) dissolved in water. The minimum necessary for survival of marine life is 4.5 ppm.

E

EBMUD - East Bay Municipal Utility District, P.O. Box 24055, Oakland, 94623.

EIR/EIS - Environmental Impact Report, from the California Environmental Quality Act (CEQA), 1970; Environmental Impact Statement from the National Environmental Protection Act (NEPA), 1969.

EN. COMM. - California Energy Resources Conservation and Development Commission, Resources Agency, 1111 Howe Ave., Sacramento, 95825.

EASEMENT - Legal agreement giving a party a defined right (often that of access) to another's property. An OPEN SPACE EASEMENT is an agreement that a land owner shall retain lands in their present natural or agricultural states, based on a certain consideration in return. May be for a term of years or in perpetuity. See Government Code Sections 51070-51097.

ECOLOGICAL RESERVE - See RESOURCE AREA.

EMINENT DOMAIN - The police power to take private property for a public use with just compensation.

ENDANGERED SPECIES - A species of animal or plant is considered to be endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes, such as: mortality rate consistently exceeds the birth rate; the species is incapable of adapting to environmental change; habitat is threatened by destruction or serious disturbance; survival is threatened by the unwanted introduction of other species through predation, competition, or disease; pollution threatens survival. See RARE SPECIES.

ENGINEERING GEOLOGY REPORT - Description of the geology of the site, conclusions, and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading. See SOIL ENGINEERING REPORT.

ESTUARY - The meeting place of sea river water which may be defined as the area in which seawater and freshwater have mutual influence.

F

FDA - Federal Disaster Assistance Administration, Dept. Housing San Francisco, 94104.

FED. EN. ADMIN. - Federal Energy Administration, Washington, D.C.

FAUNA - Wildlife. See also FLORA.

FEASIBLE - Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. From AB 2679, 1976. See Public Resources Code Section 21061.1.

FEDERAL FLOOD DISASTER PROTECTION ACT OF 1973 (PL 93-234). Refinement of the Federal Flood Insurance Act which creates strong fiscal incentives encouraging developers and local governments to keep homes out of flood risk (flood prone) areas, or at least build them above the 100 year flood level.

FISH AND GAME CODE SECTIONS 1601-1602-1505 - Authority for DFG to review and halt, if necessary, adverse alterations to streambeds (but not the shoreline above mean high water).

FLOOD - Inundation by water from a structural defect (in levees or dams), overtopping of levees or banks, or heavy storm runoff.

FLOODWAY - The high velocity flow channel and high hazard portion of a flood plain. "Designated floodway" has two separate program applications. See Copy-Alquist Act, Section 8402(f), Water Code, and the Reclamation Boards version in California Administrative Code, especially in Sections 45, 46, 76, 86, and 95.

FLOOD PLAIN - The relatively flat area or lowlands adjoining a river, stream, watercourse, ocean, or lake, which has been or may be covered by water.

FLOOD PLAIN INFORMATION (FPI) REPORT - Produced by USCE. Detailed analyses of a flood hazard area, including maps, profiles, charts, tabulations, graphs, and narrative showing extent and depth, duration and frequency of floods; water velocity and other hydrologic and hydraulic information; made only after a formal application from a locality to DWR which forwards the request to the Corps.

FLOOD PLAIN MANAGEMENT - The use of zoning, acquisition, open space easements, and other non-structural means to reduce potential damage to life, health and property during a flood.

FLOOD PRONE AREA - HUD shall map "all flood plain areas...which have special flood... hazards...establish flood-risk zones in all such areas..." (Federal Flood Disaster Protection Act of 1973, Section 1360). The Federal Insurance Administration has adopted the "100-year flood" as the standard for the identification of special flood hazard areas and as the base flood elevation for the adoption of local land use controls. It has since been adopted by virtually every Federal agency and most State agencies as the most feasible national standard.

FLOOD, ONE HUNDRED YEAR - Represents the flood level that on the average will have a one percent chance of being equalled or exceeded in any given year. Called the "Intermediate Regional Flood" by USCE.

FLORA - Plant life. See FAUNA.

FLYWAY - A vast region with extensive breeding grounds and wintering grounds connected with each other by a system of migration routes. Each flyway has its own populations of birds, even of those species that may have a continental distribution. The Delta lies in the Pacific Flyway.

FOOD CHAIN - A series of plant or animal species in a community, each of which is related to the next as a source of food.

G

GEOLOGIC HAZARD - See NATURAL HAZARDS.

GRADING - "Any excavating or filling or combination thereof." See Uniform Building Code, Section 7005.

GROUND WATER - Water within the earth. Includes aquifers. Overdraft occurs when more water is pumped out of wells than can actually be replenished by fresh water percolation.

H

HEW - U.S. Department of Health, Education, and Welfare, Region IX, 50 Fulton St., San Francisco, 94102.

HUD - U.S. Department of Housing and Urban Development, Region IX, 450 Golden Gate Ave., San Francisco, 94102.

HABITAT, WILDLIFE - Vegetation or land formation which provides fauna with protective cover for nests, dens, mating, spawning, etc. See also RIPARIAN VEGETATION.

HAZARD REDUCTION - Preventive actions and design features taken to reduce damage to life, health, or property, which would be caused by natural disasters ("Acts of God").

HERBICIDE - Chemical agent which destroys or inhibits plant growth.

HIGHEST AND BEST USE - The most productive use, reasonable but not speculative or conjectual, to which property may be put in the near future; or the greatest good for the greatest number for the longest period of time. The term is often used in assessment as an interpretation or the "fair market value" language found in California Constitution Article XIII, Section 1.

HISTORIC RESOURCE AREA - See RESOURCE AREA and Appendix A.

HISTORY INTERPRETATION - The construction, modification, or display of a historic site or artifact to demonstrate its historic, cultural, or archeologic importance.

HOSTEL - "A supervised overnight lodging or sleeping accommodation provided primarily for use by persons, including bicyclists and hikers, arriving at state park system units other than by motor vehicle." See Public Resources Code Section 5052(a).

I

ICDPRAC - Inter-County Delta Planning and Recreation Advisory Committee. DAPC's predecessor. See Introduction.

IMPACT, ADVERSE - Damage done to a physical, social, or economic situation by a program or project. The EIR/EIS process usually emphasizes "significant adverse impacts."

INVERSION - An atmospheric condition where a layer of cool air is trapped by a layer of warm air so that it cannot rise. Inversions spread polluted air horizontally rather than vertically so that contaminating substances cannot be widely dispersed.

IRRIGATION - Application of water to soils to assist in production of crops. Common methods are: BORDER--Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders; FURROW--Water is applied in small ditches made by cultivation implements used for tree and row crops; SPRINKLER--Water is sprayed over the soil surface through pipes or nozzles from a pressure system; LEACHING--Removal of soluble materials from the soil by percolating water; DRIP--Water is time-released through pipes.

J

JOINT EXERCISE OF POWERS AGREEMENT - An agreement between two or more jurisdictions on the joint exercise of any power common to them, as authorized in Title 1, Division 7, Chapter 5, Government Code.

L

LEG. - California Legislature, State Capitol, Sacramento, 95814.

LEVEES - An earthen embankment designed to restrain flood waters usually from entering an area reclaimed from a floodplain. Related concepts in the Delta include: RIPRAP - Rocking or revetment placed on the waterside to resist erosion; MULTIPLE-PURPOSE LEVEES - Those to be rehabilitated with public funds and will be required to retain vegetation and permit public access to developed, controlled sites. See DWR Bulletin #192 May 1975; and Chapters IV and VII of this document. PROJECT LEVEES - Built or rebuilt by USCE to withstand the "Intermediate Regional Flood" (100 year flood). They are maintained by reclamation districts according to national USCE regulations established in Title 33, Code of Federal Regulations, and broadly defined in USCE Sacramento District manuals (one for each river system). Comprise about 15% of Delta levees. DIRECT-AGREEMENT LEVEES - Levees which are either part of a navigation project or rebuilt by USCE after a breach, and are maintained by local districts according to the national standards. Comprise about 10% of Delta levees. PRIVATE LEVEES - Built according to the private owners desires and not included in any state or federal standards; but any levee intrusions must have a Reclamation Board permit. Comprise about 75% of Delta levees, and of these about 60% are considered inadequate.

LIQUEFACTION - See SEISMIC ACTIVITY.

M

MARINA - A dock or basin providing secure moorings for motorboats and yachts and often offering supply, repair and other facilities. In San Joaquin County Ordinance #2126 (April 2, 1974) "uses accessory to a marina" are defined as "tavern, restaurant, bait and tackle shop, grocery store; boat sales, including boat parts and supplies; boat repair; boat storage; dry boat storage; boatels; recreational vehicle campground; picnic grounds; campgrounds; houseboat rentals; and other such uses...with and of the same general character and intent..."

MARSH - Periodically wet or continually flooded area with the surface not deeply submerged. Covered dominantly with reeds, cattails, and other hydrophytic plants. Essential habitat for migratory waterfowl (also keeps them from depredation of farmlands), many bird species and mammals. See WETLANDS.

MITIGATION - Actions taken which reduce a project's adverse impact on a physical, social, or economic situation.

MULTIPLE HAZARD AREA - See NATURAL HAZARD.

N

NOAA. - National Oceanic and Atmospheric Administration (includes Office of Coastal Zone Management), Department of Commerce, 3300 White Haven St., N.W., Washington D.C., 20235.

NPDES - National Pollution Discharge Elimination System. See Federal Water Pollution Control Act Amendments of 1972 and SWRCB.

NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQA) - The prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographical area. See Federal Clean Air Act Amendments of 1970 and 1974.

NATURAL HAZARDS - Geologic and other naturally occurring dangers. In the Delta these include the potential of: flooding (overtopping of levees, levee breaches, massive levee collapse during earthquakes); seismic activity (faulting, groundshaking, liquefaction, seiches); soil instability (subsidence, erosion, expansive properties, peat inflammability); thick winter "tule fog"; narrow, twisting waterways and hidden snags; and biological hazards (nuisance insects, disease vectors, occupational hazards). The Delta is largely a MULTIPLE HAZARD AREA where many of the above overlap and are interrelated, amplifying the risks.

NAVIGABLE WATERWAY - As first stated in the federal court case, The Daniel Ball, 1870, the test for navigability is: "Those rivers must be regarded as public navigable rivers in law which are navigable in fact...(and) used or are susceptible of being used, in their ordinary conditions, as highways of commerce, over which (are) trade and travel in water..." See PUBLIC RESOURCES CODE SECTION 6301.

NOISE, SPEEDBOAT - See Harbors and Navigation Code, Sections 654.05 and 654.06 for regulations. See DECIBEL.

O

OES - Office of Emergency Services, 2800 Meadowview Road, Sacramento, 95823.

OPR - Office of Planning and Research, 1400 10th St., Sacramento, 95814.

OPEN SPACE - Land and water surfaces uncovered by construction and open to the sky. See Public Resources Code Section 21075. For open space easement, see EASEMENT.

ORGANIC SOIL - Any soil which contains greater than 20-30 percent of organic matter (that which is carbon based). See PEAT.

OVERDRAFT - See GROUNDWATER.

P

PG & E - Pacific Gas and Electric, 245 Market St., San Francisco, 94106.

PUC - Public Utilities Commission, 350 McAllister St., San Francisco, 94102.

PARKWAY - A lineal park concept usually based on a scenic or touring road. See RECREATIONAL CORRIDORS.

PEAT - Organic composition resulting from underwater decomposition of swamp growth. Its development required climate and moisture where bacteria could function. Is subject to oxidation (total consumption when in contact with oxygen), wind erosion, swell-shrink behavior, compression, liquefaction during an earthquake, and inflammability.

POLLUTION - The condition of any system being unable to recleanse itself.

PORTER-COLOGNE ACT - Enabling act for the State Water Resources Control Board. See Water Code Sections 174-188.5. Passed in 1967.

PRESERVATION - The act of keeping a resource safe in perpetuity from injury, harm, destruction, and even use. See CONSERVATION, which is a lesser action.

PRIME LAND - See AGRICULTURAL LAND.

PRIVATE SECTOR - The non-governmental community, including citizens in general and the commercial or "profit sector."

PROGRAM - Any public or private decision-making effort which can affect behavior or cause physical alterations.

PROJECT - Any public or private construction, development or alteration which has a potential for physical impact on the environment.

R

REC.. BD. - Reclamation Board, Resources Agency, 1416 9th St., Sacramento, 95814.

RES. AG. - The Resources Agency, State of California, 1416 9th St., Sacramento, 95814.

RAPTOR - A meat-eating bird of prey. All species are totally protected by a 1972 amendment to the 1936 Migratory Bird Treaty.

RARE SPECIES - A species of flora or fauna is rare when any of the following occur: confined to a relatively small and specialized habitat, and incapable of adapting to different environmental conditions; even if found in other parts of the world, it is nowhere abundant; so limited that any appreciable reduction in range, numbers, or habitat would cause it to become endangered; if current management and protection programs were diminished in any degree, it would become endangered.

RECREATIONAL CORRIDOR - Routes which permit public access to recreational, environmental, or historic sites of interest, and/or permit enjoyable movement along a scenic corridor, through, along, or around such areas. Such routes can be designed to link existing public lands into a lineal park system. Included are: hiking and riding trails; parkways; streamways; waterways access walkways; scenic highways; car touring corridors; and special train routes for sightseeing.

RECREATIONAL TRANSPORTATION - Human movement within a recreational corridor by any mode (from jogging to trains) which, in itself, creates enjoyment and/or facilitates easy access to recreation areas.

RESOURCES, NATURAL - Those materials, areas or living things considered useful or of value to either human use or in maintaining ecological stability and variety. Included are: NON-RENEWABLE NATURAL RESOURCES - Finite quantities that are no longer available once used; RENEWABLE NATURAL RESOURCES - Self-perpetuating living resources. Flora and fauna which will reproduce adequately if not overused by humans; REUSABLE RESOURCES - A finite unchangeable quantity that can be used over--air, water, some minerals.

RESOURCE AREA - An area which contains a natural or manmade resource, including any necessary buffer to isolate or protect the resource from adverse impacts by conflicting uses. Included are: SIGNIFICANT DELTA NATURAL, HISTORIC, AND RECREATIONAL RESOURCE AREAS and SIGNIFICANT RESOURCE PRODUCTION AREAS. See Appendix A.

RESOURCE AREA CLASSIFICATION SYSTEM - A framework of titles and categories which is used for the listing, numbering and mapping of resource areas after having been identified in field inventories. Similar areas are grouped together to facilitate protective measures. For the DAPC framework and a comparative chart showing past systems, see Appendix A. Key plan recommendations are numbers 125 and 126. Related concepts include: AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) - Those areas containing unique or fragile biological communities that should not be subjected to controllable environmental degradation which results from man's activities. (SWRCB Water Quality Control Plan for Ocean Waters of California, (1972); ECOLOGICAL RESERVE - Area set aside by the California Fish and Game Commission to preserve land, or land and water areas in a natural condition and to protect the aquatic organisms and wildlife found thereon for public observation and scientific study; ENVIRONMENTALLY AND BIOLOGICALLY SENSITIVE AREAS - Areas in which plant or animal life and their habitats are either rare or especially valuable because of their special nature or role in a life system and which are easily disturbed or degraded by human activities and developments, including: Areas of Special Biological Significance as identified by the State Water Resources Control Board; rare and endangered species habitat identified by the State Department of Fish and Game; all coastal wetlands and lagoons; all marine, wildlife, and education and research reserves; nearshore reefs; tidepools, sea caves; islets and offshore rocks; kelp beds; indigenous dune plant habitats; wilderness and primitive areas (California Coastal Plan); NATURAL PRESERVE (in state park system units) - Distinct areas of outstanding natural or scientific significance established to preserve such features as rare or endangered plant and animal communities, geological features illustrative of geological processes, significant fossil occurrences or geological features of cultural or economic interest, or topographic features illustrative or representative or unique biogeographical patterns (Public Resources Code Section 5001.5).

RESOURCE MANAGEMENT - The composite of multi-discipline planning, coordination, caretaking, and regulation activities which ensure that any resource or group of resources will receive balanced conservation and development attention.

RIPARIAN HABITAT - Areas adjacent to rivers, lakes, or tidewater areas and usually subject to periodic flooding. This vegetative cover supports a greater density and variety of wildlife than any other habitat type.

RIPARIAN RIGHTS - The rights of owners of lands on the banks of water courses, relating to water use, ownership of land under the stream, accretions, etc.

RIPARIAN VEGETATION - The narrow strip of vegetation that receives its water supply at or near the capillary fringe of the natural water table. Typical species include willow, cottonwood, alder, wild grape. Provides invaluable wildlife cover.

ROOKERY - Breeding ground or colony for gregarious birds or mammals.

RUNOFF - That portion of rain or snow which does not percolate into the ground and is discharged into streams.

RURAL DELTA - Undeveloped or rural areas where farming and open space should be preserved to protect the public health, safety, and welfare. The area has been mapped to include highly valuable (and hazardous) peatlands and "prime" agricultural lands, as well as to include Delta villages to protect their identity. Wherever possible, physical landmarks have been followed for the boundary (such as roads and railroad tracks) to provide a physical buffer between farming in the Rural Delta and any future urban intrusion in adjacent lands. See map in Chapter VII.

S

SCS - Soil Conservation Service, U.S. Department of Agriculture, Area 4, 650 Capitol Mall, Sacramento, 95814.

SHRA - Sacramento Housing and Redevelopment Agency, 630 I St., Sacramento, 95814.

SMUD - Sacramento Municipal Utility District, 6801 S St., Sacramento, 95813.

STATE LANDS - State Lands Commission and Division, 1807 13th St., Sacramento, 95814.

SWRCB - State Water Resources Control Board, Resources Agency, 1416 9th St., Sacramento, 95814; Regional Water Quality Control Board, Central Valley Region, 3201 S St., Sacramento, 95816. See PORTER-COLOGNE ACT.

SAN LUIS DRAIN - See CENTRAL VALLEY PROJECT.

SALINITY GRADIENT - The area of fresh and saline water interface due to the tide forced intrusion of ocean water from the Bay into the Delta. A gradual gradient is essential for anadromous fish.

SCENIC HIGHWAY - A road with scenic vistas designated and managed according to the requirements of the State Scenic Highway Program, established in 1963. See Streets and Highway Code Section 2227 and the Scenic Route - A Guide for the Official Designation of Eligible Scenic Highways (1970).

SECTION 10 and 404 PERMITS - Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Federal Water Pollution Control Act Amendments of 1972. Implemented by the Army Engineers through permits controlling navigational intrusions and landfill in waterways.

SEISMIC ACTIVITY - Earthquake related phenomena. Includes: FAULTING - Displacement of a fracture in the earth's crust; GROUND AMPLIFICATION - The phenomenon that earthquake shaking commonly increases in intensity as the waves pass from bedrock into unconsolidated surface materials due to a combination of soil conditions, depth to bedrock, and seismic factors; LIQUEFACTION - Loss of soil strength due to seismic force acting on water saturated soil, which may cause surface settlement or sliding; SPECIAL STUDIES ZONE - A hazard area of up to one-quarter mile on each side of known faults, as defined in the Alquist-Priolo Seismic Safety Act of 1974; SEICHE - A violent wave action sloshing caused by an earthquake within an enclosed or restricted body of water, such as a bay, lake, or reservoir. The greatest consequence of a seiche would be in a reservoir where the water action might overtop and destroy the dam and create a massive flood; TSUNAMI - A large wave generated by an earthquake or, more rarely, a volcanic eruption.

SIGNIFICANT RESOURCE AREA - See RESOURCE AREA.

SITE - Any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted. See Uniform Building Code, Section 7005.

SOIL - Generally, mineral earth, but often used to include organic particles, such as peat. Soil related phenomena or concepts include (see SEISMIC ACTIVITY, TURBIDITY, and SUBSIDENCE): EXPANSIVE SOILS - Soils which swell when they absorb water and shrink as they dry. Primarily found in clays, although peat soil also behaves in this fashion. Also referred to as swell-shrink soils; FERTILITY - The quality of a soil that enables it to provide nutrients in adequate amounts and in proper balance for the growth of specified plants when other growth factors, such as light, moisture, temperature, and the physical condition of the soil, are favorable; SEDIMENT - Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest anywhere on the earth's surface.

SOIL ENGINEERING REPORT - Data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and designs criteria for corrective measures when necessary, and opinions and recommendations covering adequacy of sites to be developed. See ENGINEERING GEOLOGY REPORT.

SPECIFIC PLAN - See Government Code Section 6545.

SUBDIVISION MAP ACT - See Government Code Section 65000 et. seq.

SUBSIDENCE - A downward movement of the ground surface, caused by reduction of pressures within an aquifer, petroleum reservoir, or gas field; or, as in the Delta, by oxidation and wind erosion of peat land.

SUSTAINED ECONOMIC YIELD - The capability of resource production lands, especially agricultural, to continue production and return a profit to the user.

T

TDS - Total Dissolved Solids. Refers to minerals, usually salt, in water.

TIDE - The alternative rising and falling of the surface of all water bodies, especially those connected with ocean, caused by the gravitational pull of the sun and moon occurring unequally on different parts of the earth.

TIDE LANDS - The portion of the ocean shore which is covered and uncovered by the ebb and flow of the tides. See Dietz v. King, 1969.

TIDAL DELINEATIONS: MEAN HIGH WATER - The mean height of tidal high waters at a particular station for 18.6 years (usually synonymous with mean high tide); MEAN LOW WATER - The average height of the low waters over a 19 year period; MEAN SEA LEVEL - The average height of the surface of the sea for all stages of the tide over a 19 year period; MEAN TIDE LEVEL - The tidal plane halfway between mean high water and mean low water, synonymous with half tide level; ORDINARY HIGH WATER MARK - Boundary line between the state owned lands and privately owned uplands in or along waterways not under influence of tides.

TOURING CORRIDOR, CAR - Concept proposed in the Delta Plan to identify scenic roads for tourism and to suggest potential future SCENIC HIGHWAYS.

TRACT - Usually means a portion of land under one owner. In the Delta, the name is sometimes used in lieu of "islands" as a place name (such as Frank's Tract). Delta tracts are more often partially leveed "penisulas," with waterways on two or three sides.

TRAILS, RECREATIONAL - Pathways situated and constructed so as to provide safe and convenient means for persons, including bicyclists, hikers, and horsemen, to travel by other than motor vehicles. See Public Resources Code Section 5052(b), and California Recreational Trails System Plan, Public Resources Code Sections 5070-5076.

TULES - Originally given to a species of bullrushes growing where the soil had been overflowed in the southwestern United States and adjacent Mexico. The ten-foot stalks are now recognized as native to northern California. Tules is pronounced "tooly" and the Spanish called the Delta region, "Tulares."

TURBIDITY - Water condition which is thick with roiled sediment. Common in Delta waterways, but does not equate with pollution. The condition does halt algae blooms which require sunlight.

U

USBR - U.S. Bureau of Reclamation, Department of Interior, 2800 Cottage Way, Sacramento, 95825.

USCE - U.S. Corps of Engineers, Sacramento District, 650 Capitol Mall, Sacramento, 95814.

USFWS - U.S. Fish and Wildlife Service, Department of Interior, 2800 Cottage Way, Sacramento, 95825.

USGS - U.S. Geological Survey, 345 Middlefield Road, Menlo Park, 94025.

URBAN SPRAWL - Inefficient and irregular expansion of urban growth into farms and natural areas, frequently by skipping over inner-city unused lands. See DEVELOPMENT, LEAPFROG.

V

VECTOR - Any insect, rodent, or other animal capable of transmitting disease, reducing well-being, or creating a nuisance.

VEGETATION - See RIPARIAN VEGETATION.

VERNAL POOL - An unusually botanic resource area found in flat lands, created by a hardpan subsurface which collects and holds winter rain and supports unique vegetative species.

W

WCB - Wildlife Conservation Board, Resources Agency, 1416 9th St., Sacramento, 95814.

WAKE - The track left by a moving body in the water. Vessel speed is not the only cause of wakes--hull design is also important. See "RESTRICTED WAKE ZONE" in Appendix B.

WAVE - Rolling or undulating movement passing over a surface. Water waves can be wind, boat, or seismic generated.

WASTEWATER TREATMENT - Primary is the first stage of sewage processing and is essentially a screening. Secondary is the next step and most commonly found level in California. Tertiary is a broad name for a variety of means to remove nitrate and phosphate nutrients still in the effluents.

WATER WHEEL - A catch phrase to suggest the Delta's centralized receiving position in the great Central Valley drainage basin and its geography as a holding basin for up to 40% of the state's run-off water, with its resulting role as the "forebay" for DWR and USBR water exportation projects.

X Y Z

ZONING - The division of a city or county into districts, each having different regulations to govern the land uses. Based on the police power to protect public health, safety, and welfare. Authority to exercise this power was granted by the Legislature to cities and counties.

U.C. BERKELEY LIBRARIES



C101744503

